

THE MONIST

PRIMITIVE ROME.¹

PHILOSOPHERS endeavor to discover the origin of things, anthropologists the origin of man, and all naturalists the origin of living beings. So archæologists delve into the sites of ancient cities to find the origin of civilisation, or the humble birth of a city which has been distinguished for its magnificence or its power.

Man is not satisfied to know merely how things are, especially the noteworthy, nor is he content to know merely the great works of man. He wishes to know also how these things have been produced, and how the greatness of man has developed. Consequently he searches for origins with an anxious curiosity, and notices the least phases of increase and development with a religious zeal. All this explains, in part at least, the almost instinctive love of antiquity, even in men who are unable to estimate its value and significance.

Rome has been venerated on account of its historical greatness, its immense power, and the great and numerous monuments it has left in all parts of the world into which its dominion has extended. It has always been a center of attraction to all cultivated men, and visitors to its ruins have been innumerable—the too many ruins which are scattered all over the city. In the presence of these ruins, which bring to mind a world destroyed, the imagination rises and, leaping through space and time, calls forth a religious sentiment which makes a ruin a sacred relic to be adored, and in-

¹ Translated from the author's manuscript by Prof. Ira W. Howerth, of The University of Chicago.

vests with a halo every stone, every inscription, and every little piece of sculpture, which frequently are of no value in comparison with the creations of modern art.

A few years ago we admired the Coliseum, the Arch of Septimius Severus, the Basilica Julia, the almost irrecongnisable ruins of the Palatine, the Cloaca Maxima, which by the way is by no means primitive, the *Meta sudante*, etc. We admired the artistic remains of the Roman and the Trajan Forums, the two celebrated columns, the Antonine and the Trajan, all imperial and relatively recent constructions. We entered with sacred horror the labyrinthine sepulchre of Scipio, excavated in the Tufa, and we visited the tomb of Cecilia Metella, or the Pyramid of Cestus. But now our attention is turned to a difficult investigation, and yet one which rouses greater curiosity, namely, an inquiry into the origin of Rome.

When the engineer Boni, who directed the excavations in the Forum and who investigated indefatigably this center of ancient Roman life, first applied the pick to discover what was hidden under these ruins, all the fetich worshippers, archæologists, and dilettante raised a howl of protest against the profaner who would remove a single stone of the Forum and dig a trench to explore it. But now, after some discoveries of great value, the horror has diminished, but is by no means ended, for it is still desired that many parts of the surface which are already known, and that part which really forms the alphabet of Roman archæology, namely, that of the Imperial epoch, be left undisturbed.

No one will be astonished to learn that the place of the Roman Forum, and which bears that name, although the Forum occupies only a part of it, has to-day an altitude above the sea which it did not have at various times from the origin of Rome to the Empire. At present its altitude is from fourteen to fifteen metres, and its slope is less than what it must have been in primitive times. And so the two neighboring hills, the Palatine and the Capitoline, must have had a higher elevation in relation to the valley in which were founded the Forum and other monuments.

If at its present level the Forum is flooded when the Tiber is out of its banks and remains submerged like the Pantheon and

some parts of the lower city, in primitive times the lowest part of the valley between the Palatine and the Capitoline must have been a swamp, as recent excavations plainly show, and must have been uninhabitable. During the various epochs of the city there was a gradual and continuous rise in elevation which continued down to the Imperial epoch. The excavations of to-day reveal a series of strata which are, so to speak, the sediment which has modified the area of that center of Roman life where transpired the great popular events, and from which departed the legions for the conquest of the world. For more than seven centuries that small bit of ground witnessed the destruction and reconstruction of houses, temples, sewers, prisons, and political edifices. So that to-day there are found one above the other the remains of old buildings which have been destroyed or modified, sometimes the ruins of one palace above those of another. All this appears chaotic enough, but it is the expression of the life of the successive periods of the city from its origin to its final destruction by the barbarians.

If one did not know that for seven hundred years at least, except during the temporary occupation of the Gauls, the dominion of Rome was not changed, and that the same people dwelt there, one might believe that various invasions and transfers of power had transformed the city. And yet it is a well-known fact that the invaders of a state do not change the places occupied by their predecessors, at least only in exceptional cases, because they find already established what they could create only at great expense and with much labor. The sudden changes which have taken place in the city of Rome during the long period of its existence are due, then, to the many and grave vicissitudes to which it was subjected in about seven centuries of its most active public life. But to know the construction and reconstruction of the city in the valley where the Forum stands is not to know its origin, that humble origin from which arose its grandeur and which contained the germs of its immense vitality, on account of which Rome was superior to other contemporaneous cities. But now the exploring (by some thought to be the devastating) hand of Boni discovers now something which tradition had handed down in historical

works, now something which no one knew anything about. Among many things I shall speak only of two; one of which occasioned grave disputes between the archæologists and the philologists of all nations; the other a surprise to many, even to those who confidently believed themselves able to foretell in accordance with ideas now held something about the origin of Rome and of the Latin civilisation.

STELE WITH AN ARCHAIC LATIN INSCRIPTION.

The *Lapis Niger*, which is an area paved with ancient black marble, about twelve Roman feet in width, about a foot thick, and enclosed, was discovered in the center of the Comitium. It is rumored that at the depth of one and forty hundredth metres they covered an esplanade of yellow tufa (from the Palatine or from the upper strata of the Capitoline underneath the clay) supporting two oblong quadrilateral pedestals decorated with magnificent Etruscan *gola*, with the face turned to the north, that is, toward the Curia Hostilia.

Passages from ancient authors referring to this place include the well-known passage from Festus which refers to the *Niger Lapis* almost as the mark of the funeral place in the Comitium; that of Varro which places the Rostra in front of the Curia, and another from Varro which places the sepulchre of Romulus behind the Rostra: *ubi etiam in huius rei memoriam duos leones erectos fuisse constat*. The tradition of the sepulchre and of a lion (stone) has been gathered also from Dionysius of Halicarnasus. Passing beyond a large house at the west, the esplanade of tufa is transformed, bends to the left and supports a plinth slightly curvilinear which in turn supports the trunk of a monolithic cone of yellow tufa .48 metres in height and with a diameter of .773 metres at the base, and .695 metres at the top. Behind the trunk of the cone, at a distance of .171 metres from the front, rises a half column of tufa in the form of a truncated quadrangular pyramid, with smooth corners, .47 metres by .518 metres at the base, and broken off at a height from .455 metres to .610 metres, not counting the part encased in the paved surface. On the four sides and upon the cor-

ner at the southwest angle of the half column, which is .053 metres in size, is the inscription.¹

The inscription begins from right to left and is folded back on the second line from left to right and so on successively in the manner called boustrophedon. The lines are therefore not horizontal but vertical, so that the words begin at the base and run toward the top and then re-descend in boustrophedon, as it is called.

This method of writing recalls the most ancient of Greek inscriptions. There is no example of it in Etruscan, Umbrian, Oscian or archaic Latin inscriptions. Some epigraphs of Picenus and of Marsi preserve the old style. Since in Greece the boustrophedon appeared between the seventh and the sixth century, it is held by some that the inscription of the Stele must belong at least to the sixth century. According to others it is more recent, but I need not discuss this, for the matter is still *sub judice* and is related to the discussion of types of writing and to that of the archaic language itself. (Fig. 1.)



Fig. 1.

The inscription, according to the reading of Gamurrini, is as follows:

Quoi hoi.... / sakros : es / edsorm.... /eiasias / necei :

¹ From *Notizie degli scavi di antichità*, 1899, Boni relatore.

lo..../.....evam / quos: ri..../....m: kalato / rem: hap..../
ciod: iovxmen / ta: kapia: dotav.... / m: i: te: ri: i:..../
m: quoi ha / velod: ne qu.... /od: iovestod..../ iovo-
 viod....

The inscription is thus disposed upon the sides of the Stele, and begins at the bottom of the western side. (Fig. 2.)

... . IOH IOVQ
 . . . SAKROS:ES
 . . . MROSD
 . . . EIASIAS
 . . . OJ:IECEJ
 . . . EVAM
 . . . IJ:SOVQ
 . . . OTAJAK:M
 . . . REM:HAP
 . . . CIOD:IOVXMEN
 . . . VATOD:AIQAK:AT
 . . . I:IA:ET:I:M
 . . . M:QVOI HA
 . . . VQEN:DOJEV
 . . . OD:IOVESTOD
 . . . OIVOYIOD...

Fig. 2.

Others have transcribed the inscription with some variations, but this is not the place to speak of these, because every variation implies a different interpretation, and therefore the problem to re-

solve is the interpretation. I make no pretension to being a philologist by profession, but I may say that the philologists of many nations have encountered insuperable difficulties, and are still engaged in lively disputes without coming, it seems to me, to any definite results.

The principal difficulties are two: The inscription is incomplete because the Stela is broken and the upper part is wanting, and it is cut longitudinally, so that the continuity of the lines is broken. If it had been cut horizontally, we should have the lower part of the inscription entire and might read the last part of it without interruption. But there is another difficulty, it appears to me, and that is this: the inscription does not contain the Latin as we know it, but a language spoken by the people in that epoch. This language was not at that time completely formed, and doubtless contained many parts of the vocabulary of a language anterior to that with the Aryan inflection, that is, of a language spoken by the indigenous Italians. The effort to interpret all the words by comparing them with the Aryan languages, while overlooking what might be indigenous, produces greater obscurity and prevents any complete interpretation.

I have many times expressed the opinion, an opinion based upon observed facts, that the Italian languages were formed upon the soil of Italy itself; hence, all the linguistic elements of the languages spoken prior to the Aryan invasions could not have been lost. Even to-day we find the relics of these languages in the vocabulary and the inflection of every language of the Aryan type. In a recent work I have shown this conclusively.¹ If this is true, it is not possible to interpret the fragmentary words of the archaic inscription of the Roman Stele with the Latin vocabulary alone. Possibly the Stele will remain undeciphered, like many other inscriptions of Latium! But this does not diminish the importance and the value of the discovery. Perhaps it even increases it, because it shows once more that the Latin language and the Roman

¹ Compare my works: *Arii e Italici*, Turin, 1898; *The Mediterranean Race. The Origin of the European Peoples*, London, 1901; *Gli Arii in Europa e in Asia*, Turin, 1902 (bearing the date 1903).

people which speak it were born of many elements, and it represents an obscure fringe of primitive Rome.

AN ARCHAIC SEPULCHRE.

A discovery not less important than the preceding is that of an archaic sepulchre with tombs for two different funeral ceremonies, incineration and inhumation.

The engineer Boni, testing in various places the depth of the area between the Palatine and the Capitoline which contained Republican and Imperial Rome, that is to say, the valley where the Roman Forum, the temples and the other monuments are found, discovered near the foundations of the Temple of Faustina a tomb for incineration (April, 1902). By an exploration of the foundation of the Temple, and from the depth of the Tomb, it is easily seen that the architect who erected the temple not only ignored the existence of a very ancient sepulchre, but having discovered it cared so little for it that he destroyed that part which served him in laying the foundation of the temple.

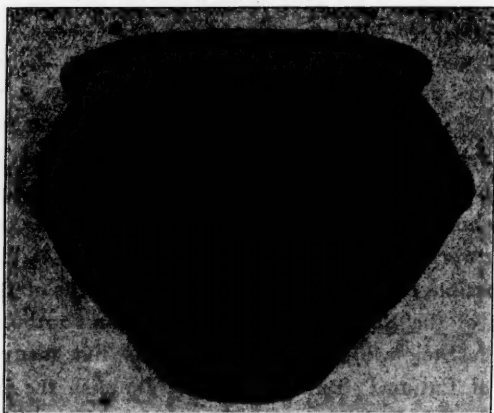


Fig. 3.

The tomb is situated at a depth of 4.50 metres below the present level of the Forum and 10.63 metres above the level of the sea. It consists of a dolium containing a vase with charred bones, a cin-

erary urn, and other smaller vases, among which is one with a half-moon shaped handle characteristic and common in the Terremare of the valley of the Po. The dolium was packed in a ditch or sink which was .60 metres in diameter and .45 metres in depth. In the



Fig. 4.

cinerary urn were found the charred remains of a human skeleton crumbled by a fire which must have been very hot, and some remains of the bones of other animals; no trace of metal. (3, 4.)

Some months afterward another tomb was discovered at almost the same level as the first, but of a different character. It consisted in a kind of box formed by blocks of tufa placed about .50 metres from the sink containing the dolium with the cinerary urn, and contained an inhumed, but not burned, skeleton. This skeleton is still in place (Aug. 18, 1902), for only the upper part of it has been uncovered, the cranium and the upper part of the thorax. The remainder of the skeleton is still covered with earth. The place contiguous to this tomb gives indications of other neighboring tombs, but it cannot be easily explored without destroying or damaging the constructions which stand above it and which belong to the

Republican period. At a distance of a few metres, however, in freer ground, another exploration has succeeded in discovering new tombs for incineration, of which some contain cottage urns, well known by their forms, because other similar urns have been found in Latium and elsewhere. The discovery of these few tombs is sufficient to demonstrate the existence of a very ancient sepulchre in the valley which contains the Forum and the other remains of Republican and Imperial monuments lying at the foot of the Palatine and the Capitoline.¹

It is no new thing to discover in Rome tombs for cremation mingled with those for inhumation. About twenty years ago such tombs were discovered not far from the church of Santa Maria Maggiore in the Via dello Statuto. I myself possess a skull from these tombs, and many other skulls, also studied by me, are preserved in the Capitoline Museum.² In Latium several burying-grounds with tombs for incineration have been explored, and a year ago one near Grottaferrata in the villa Cavalletti, a kilometre and a half from Frascati, was brought to light.³

In the judgment of the explorers of these burying-grounds, Colini and Mengarelli, it seems that this tomb belongs to the same epoch as that of the Roman Forum, that is, to the first period of Latium. Both show intimate connection with other sepulchres of Latium, commencing with those discovered at the beginning of the past century. Few differences of any importance are found. They are not sufficient to place them in different periods or to indicate diverse influences. All have substantially common fundamental characteristics which show a single civilisation. The discovery of a burying-ground in the Roman Forum ought not, therefore, to occasion surprise, for Latium and even places in the city of Rome itself are covered with burying grounds of the same type. About a year ago when I wrote on this question, I pointed out that a people which practiced burning the dead had occupied Latium,

¹After that time new tombs have been discovered.

²"Studi di antropologia laziale." *Boll. Accademia-Medica*, Rome, 1895.

³*Notizie degli scavi di antichità*, 1902, cit.

at least to the Tiber, as it had already occupied the Valley of the Po and the territories of this valley as far as Latium. This people, which invaded Italy from the North, had found a population which practiced inhumation and possessed a neolithic civilisation highly developed and with the use of copper, whence the name *eneolithic*, given by Italian archæologists to this epoch.¹

Where the invaders were most numerous the funeral custom was almost altogether changed, even the primitive inhabitants adopting incineration. But where they were less numerous the indigenous inhabitants preserved in part the earlier custom of inhumation. Consequently, in parts of Italy, and especially in Latium, both rites are found together. In the Roman Forum, where the new burying-ground was discovered, a tomb with a cinerary urn was found near a tomb for inhumation, as has already been seen. Probably others might be found if the excavations were extended.

From my own investigations and studies I have come to the conclusion that the invaders with the rite of incineration were the Aryans, and that those who inhumed were the indigenous inhabitants, whose differences in physical characteristics from the former were especially in the form of the head. The Aryans had a large, short (brachicephalic) skull with forms spheroidal platycephalic and cuneiform. The indigenous inhabitants had a long and narrow head (dolicho- and mesocephalic) with ellipsoidal forms, and they belong to the great Mediterranean variety whose existence I have shown, and which I have many times described.²

The skull of the inhumed body in the tomb in the Roman Forum, near the tomb of the body which has been burned, is of the Mediterranean type, ellipsoidal and dolichocephalic. Hence that tomb is one of an indigenous inhabitant, which I call *Italico*, while the others for cremation are tombs of the Aryans, and also of the Italians who accepted the Aryan custom.³ This agrees exactly

¹ See *Arii e Italici*, Turin, Rome, 1897.

² *The Mediterranean Race. A Study of the Origin of the European Peoples*. London, Walter Scott, 1901.

³ On this question compare *Arii e Italici*, *cit.*, and *Arii in Europa e in Asia*, Turin, 1902.

with the result of another study which I have made of the oldest skulls of ancient Rome, skulls antedating the walls of Servius Tullius,¹ and which for the most part belong to the Mediterranean type.

The problem which now presents itself is to determine who were the founders of Rome, to ascertain whether they were Aryans or Italians, that is, whether they burned their dead or buried them, or in other words, whether they were Asiatic Aryans or the Mediterraneans.

All those who with the philologists admit the Italicity of the Aryans, notwithstanding the great confusion of the facts, and who consider the Aryans as the bearers of the Hellenic and Latin civilisation, believe that Rome was founded by the Aryans; and hence they find some confirmation of their opinion in the discovery of the burying-ground in the Roman Forum. This burying-ground, according to their opinion, must have been one of those belonging to the founders of the four square city on the Palatine. Some even say that the body inhumed near the tomb of the incinerated one was a client or a dependent of the latter, a patrician!

To be sure, it is difficult to establish any exact chronology by means of burying-grounds alone, but approximately it seems that the burying-grounds of Latium belong to about the eighth century B. C., as does also that of the Roman Forum. This was the epoch of the Etruscan colonisation, which is undoubtedly of Oriental origin, and which carried into the Occident the twilight of the Mycenaean civilisation. This colonisation, it appears, interrupted the continuity of the invasion and dominion of the Aryans, who at that time extended from the valley of the Po to the Tiber.

From the number of burying-grounds scattered through Latium and over the Roman territory itself, and in the place where rises the most ancient city, we must conclude that there was a large community of a mixed population, the indigenous (Mediterranean) and the foreign (Aryan). This community adopted a mixed funeral custom, the ancient and primitive practice of burying their

¹ See *Studi di antropologia laziale*, cit.

dead, and the recent one peculiar to the Aryans, that of incinerating them. As it is on the Esquiline (Via dello Statuto), so also in the Roman Forum. In the necropolis of the Esquiline a few hundred metres from the Forum, most of the Tombs are for incineration, only a few being found for inhumation. And we must admit the fact that it is natural in the domination of one people by another, especially when it is severe, for the conquered and subject race to imitate the customs of their masters. Hence all the tombs of a necropolis never represent a single type of population. Many of the indigenous inhabitants followed the custom of their masters, the Aryans, in burning their dead, and this custom was never completely abolished. In Rome even in recent epochs funeral pyres were sometimes constructed for the dead, especially for illustrious persons. And the same thing happened also in Etruria, where to-day the visitor may find recent Etruscan tombs with the funeral custom of cremation.

In Latium and in the Roman territory the number of foreign Aryans must have been very great. In confirmation of this I may present two arguments: First, the study which I have made of the skulls from the necropolis of the Esquiline, and from which it appears that the majority belong to the Mediterranean type, and a few to the Aryan type;¹ and second, the composition of the modern population outside of the walls of Rome, which in spite of the mingling undergone at various times belongs chiefly to the Mediterranean type.

The community, which on account of its ethnical components is called the Ario-Mediterranean, dwelt in cottages, never in walled houses. Their cities were not different from the villages which are found among other indigenous populations, savage or semi-savage. The city surrounded by walls, with its regular life and all that belongs to it, did not exist in the eighth century B. C. We know that construction in stone was very ancient in the eastern Mediterranean where the art was taught by Egypt and the Mycenaean civilisation. In Etruria, since the remains of the Pelasgian civilisation

¹ See *Studi di antropologia Laziale*, cit.

are not found anterior to the advent of the Etruscans, stone architecture must have owed its origin to them. In upper Italy buildings of stone, the result of the Etruscan invasion and dominion, have been found, as for instance at Marzabotto, near Bologna.

We may ask, then, how did it happen that with so many Ario-Mediterranean communities in Latium and in the Roman territory, no city was built except by that community which dwelt upon the Palatine and the Capitoline or between these two hills? A year ago, writing on the origin of Rome, I attributed the principal cause to the Etruscan colonisation, which on the one hand broke the relations of the Aryan invasion between Latium and the north, and on the other hand threatened to take possession of the territory of the Tiber and had already founded, a few kilometres from the Tiber, the city of Veio. If Latium wished to remain independent, it was compelled to fortify itself against its new enemy, which was not only more powerful in arms, but also of a more advanced civilisation, and hence could have easily conquered a tribe little more than half savage, as were the people of Latium in general and the Latins especially.¹

But this could not have been accomplished suddenly without some change taking place within the tribes of Latium, and especially in those nearest the sea and the Etruscan territory, which now lay between Ceres and Veio on the right bank of the Tiber. This change took place through the acquisition of a part of the Mediterranean civilisation, which for a few centuries had advanced from the Orient and infiltrated itself in the riverain populations of the Occident. The Etruscans, late Pelasgians, as I have called them,² being continually near them, contributed more than commerce with the Orient to change the inferior conditions of the Latin tribe near the Tiber. We find great difficulty to-day, however, in distinguishing and separating the primitive culture of Rome from the Etruscan. Indeed, there are those who believe there is no difference between them.

¹ See *Arii e Italici*, *cit.*, last chapter.

² Sergi, *The Mediterranean Race*, *cit.*

What they taught the Romans was stone architecture, the orientation of the city, and the construction of walled fortifications. Hence arose the citadel on the Capitoline, and the city on the Palatine, two hills already inhabited by two tribes, and separated in part by the swampy valley now occupied by the Forum.

With this first nucleus of a type of city until then unknown were united a few neighboring tribes who dwelt on the surrounding hills and were independent communities with their own orderly arrangements and also with their own burying-grounds, as we have seen. Nor is this all that happened. There must have been much commerce with the people of other communities, and therefore an influx into the new and strong city constituted with new arrangements and fortified against the nearest dangerous enemies, namely, the Etruscans.

A little later this city, which may be called the daughter of the Etruscan civilisation, measured its strength with the Etruscans themselves, but was constrained by them to allow the Etruscans to participate in the State and in part also in the colonisation: a concession necessary to allow it to live in peace and without danger. But finally their emancipation was complete, and many communities of Latium having been conquered, there was a great increase of power.

In all this profound change the Aryan elements, which formed a part of the communities of Latium, together with the Mediterranean elements, lost all their distinction and value. The populations were fused so as to be no longer distinguishable, as we saw with reference to the burying-grounds in which inhumation, which was preserved by the conquered, exists along with those for cremation, which were introduced by the Aryans. And the increasing power of the new city began to level the ethnic differences so that in time they completely disappeared, even from tradition. Aryanism dominates in one thing only, namely, language, for now that domination is complete. The inflected language has destroyed the primitive language of the indigenous population.

When the fusion of the tribes of the Seven Hills began, and the Capitoline was united more closely with the Palatine, the

valley which separated them began to fill up and to be occupied by houses and temples, and the Forum was established. Then it was forgotten by the Romans that in that swampy valley there existed a primitive cemetery which contained the remains, sometimes burned, sometimes buried, of the Ario-Mediterranean tribe which dwelt on the top of the Palatine and built there the structures which are now uncovered.

My firm conviction, therefore, is that primitive Rome was founded under the influence of the Mediterranean civilisation and especially of the Etruscan, which was almost the model in its construction, and of ethnic elements already mingled, the Mediterranean the larger, and the Aryan the lesser, as is shown by a study of the ancient and modern populations of Latium. The Aryans were incapable of constructing a city like Rome, because when they emigrated into Europe and into Italy their civilisation was inferior to the Mediterranean, and they were ignorant of the art of building in stone;¹ they gave only the language.

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¹ Cf. *Gli Arii in Europa e in Asia, cit.*

ANTS AND SOME OTHER INSECTS.¹

AN INQUIRY INTO THE PSYCHIC POWERS OF THESE ANIMALS, WITH AN APPENDIX ON THE PECULIARITIES OF THEIR OLFACTORY SENSE.

[CONCLUDED.]

THE REALM OF FEELING.

IT may perhaps sound ludicrous to speak of feelings in insects. But when we stop to consider how profoundly instinctive and fixed is our human life of feeling, how pronounced are the emotions in our domestic animals, and how closely interwoven with the impulses, we should expect to encounter emotions and feelings in animal psychology. And these may indeed be recognised so clearly that even Uexkuell would have to capitulate if he should come to know them more accurately. We find them already interwoven with the will as we have described it. Most of the emotions of insects are profoundly united to the instincts. Of such a nature is the jealousy of the queen bee when she kills the rival princesses, and the terror of the latter while they are still within their cells; such is the rage of fighting ants, wasps, and bees, the above-mentioned discouragement, the love of the brood, the self-devotion of the worker honey-bees, when they die of hunger while feeding their queen, and many other cases of a similar description. But there are also individual emotions that are not compelled altogether by instinct, e. g., the above-mentioned mania of certain ants for maltreating some of their antagonists. On the other hand, as I have

¹ Lectures delivered in Berlin, August 13, 1901, before the Fifth International Congress of Zoölogists. Published by Ernst Reinhard, Munich, 1901. Translated from the German by William Morton Wheeler.

shown, friendly services (feeding), under exceptional circumstances, may call forth feelings of sympathy and finally of partnership, even between ants of different species. Further than this, feelings of sympathy, antipathy, and anger among ants may be intensified by repetition and by the corresponding activities, just as in other animals and man.

The social sense of duty is instinctive in ants, though they exhibit great individual, temporary, and occasional deviations, which betray a certain amount of plasticity.

PSYCHIC CORRELATIONS.

I have rapidly reviewed the three main realms of ant-psychology. It is self-evident that in this matter they no more admit of sharp demarcation from one another than elsewhere. The will consists of centrifugal resultants of sense-impressions and feelings and in turn reacts powerfully on both of these.

It is of considerable interest to observe the antagonism between different perceptions, feelings, and volitions in ants and bees, and the manner in which in these animals the intensely fixed (obsessional) attention may be finally diverted from one thing to another. Here experiment is able to teach us much. While bees are busy foraging on only one species of flower, they overlook everything else, even other flowers. If their attention is diverted by honey offered them directly, although previously overlooked, they have eyes only for the honey. An intense emotion, like the swarming of honey-bees (von Buttel) compels these insects to forget all animosities and even the old maternal hive to which they no longer return. But if the latter happens to be painted blue, and if the swarming is interrupted by taking away the queen, the bees recollect the blue color of their old hive and fly to hives that are painted blue. Two feelings often struggle with each other in bees that are "crying" and without a queen: that of animosity towards strange bees and the desire for a queen. Now if they be given a strange queen by artificial means, they kill or maltreat her, because the former feeling at first predominates. For this reason the apiarist encloses the strange queen in a wire cage. Then the

foreign odor annoys the bees less because it is further away and they are unable to persecute the queen. Still they recognise the specific queen-odor and are able to feed her through the bars of the cage. This suffices to pacify the hive. Then the second feeling quickly comes to the front; the workers become rapidly inured to the new odor and after three or four days have elapsed, the queen may be liberated without peril.

It is possible in ants to make the love of sweets struggle with the sense of duty, when enemies are made to attack a colony and honey is placed before the ants streaming forth to defend their nest. I have done this with *Formica pratensis*. At first the ants partook of the honey, but only for an instant. The sense of duty conquered and all of them without exception, hurried forth to battle and most of them to death. In this case a higher decision of instinct was victorious over the lower impulse.

In *résumé* I would lay stress on the following general conclusions:

1. From the standpoint of natural science we are bound to hold fast to the psychophysiological theory of identity (Monism) in contradistinction to dualism, because it alone is in harmony with the facts and with the law of the conservation of energy.

Our mind must be studied simultaneously both directly from within and indirectly from without, through biology and the conditions of its origin. Hence there is such a thing as comparative psychology of other individuals in addition to that of self, and in like manner we are led to a psychology of animals. Inference from analogy, applied with caution, is not only permissible in this science, but obligatory.

2. The senses of insects are our own. Only the auditory sense still remains doubtful, so far as its location and interpretation are concerned. A sixth sense has not yet been shown to exist, and a special sense of direction and orientation is certainly lacking. The vestibular apparatus of vertebrates is merely an organ of equilibration and mediates internal sensations of acceleration, but gives no orientation in space outside of the body. On the other hand the visual and olfactory senses of insects present varieties in the range

of their competency and in their specific energies (vision of ultra-violet, functional peculiarities of the faceted eye, topochemical antennal sense and contact-odor).

3. Reflexes, instincts, and plastic, individually adaptive, central nervous activities pass over into one another by gradations. Higher complications of these central or psychic functions correspond to a more complicated apparatus of superordinated neuron-complexes (cerebrum).

4. Without becoming antagonistic, the central nervous activity in the different groups and species of animals complicates itself in two directions: (*a*) through inheritance (natural selection, etc.) of the complex, purposeful automatisms, or instincts; (*b*) through the increasingly manifold possibilities of plastic, individually adaptive activities, in combination with the faculty of gradually developing secondary individual automatisms (habits).

The latter mode requires many more nerve-elements. Through heredity predispositions (imperfect instincts) of greater or less stability, it presents transitions to the former mode.

5. In social insects the correlation of more developed psychic powers with the volume of the brain may be directly observed.

6. In these animals it is possible to demonstrate the existence of memory, associations of sensory images, perceptions, attention, habits, simple powers of inference from analogy, the utilisation of individual experiences and hence distinct, though feeble, plastic, individual deliberations or adaptations.

7. It is also possible to detect a corresponding, simpler form of volition, i. e., the carrying out of individual decisions in a more or less protracted time-sequence, through different concatenations of instincts; furthermore different kinds of discomfort and pleasure emotions, as well as interactions and antagonisms between these diverse psychic powers.

8. In insect behavior the activity of the attention is one-sided and occupies a prominent place. It narrows the scope of behavior and renders the animal temporarily blind (inattentive) to other sense-impressions.

Thus, however different may be the development of the auto-

matic and plastic, central neurocyme activities in the brains of different animals, it is surely possible, nevertheless, to recognise certain generally valid series of phenomena and their fundamental laws.

Even to-day I am compelled to uphold the seventh thesis which I established in 1877 in my habilitation as *privat-docent* in the University of Munich:

"All the properties of the human mind may be derived from the properties of the animal mind."

I would merely add to this:

"And all the mental attributes of higher animals may be derived from those of lower animals." In other words: The doctrine of evolution is quite as valid in the province of psychology as it is in all the other provinces of organic life. Notwithstanding all the differences presented by animal organisms and the conditions of their existence, the psychic functions of the nerve-elements seem nevertheless, everywhere to be in accord with certain fundamental laws, even in the cases where this would be least expected on account of the magnitude of the differences.

APPENDIX.

THE PECULIARITIES OF THE OLFACTORY SENSE IN INSECTS.

Our sense of smell, like our sense of taste, is a chemical sense. But while the latter reacts only to substances dissolved in liquids and with but few (about five) different principal qualities, the olfactory sense reacts with innumerable qualities to particles of the most diverse substances dissolved in the atmosphere. Even to our relatively degenerate human olfactories, the number of these odor-qualities seems to be almost infinite.

In insects that live in the air and on the earth the sense of taste seems to be located, not only like our own, in the mouth-parts, but also to exhibit the same qualities and the corresponding reactions. At any rate it is easy to show that these animals are usually very fond of sweet, and dislike bitter things, and that they perceive these two properties only after having tasted of the re-

spective substances. F. Will, in particular, has published good experiments on this subject.

In aquatic insects the conditions are more complicated. Nagel, who studied them more closely, shows how difficult it is in these cases to distinguish smell from taste, since substances dissolved in water are more or less clearly perceived or discerned from a distance by both senses and sought or avoided in consequence. Nagel, at any rate, succeeded in showing that the palpi, which are of less importance in terrestrial insects, have an important function in aquatic forms.

In this place we are concerned with an investigation of the sense of smell in terrestrial insects. Its seat has been proved to be in the antennæ. A less important adjunct to these organs is located, as Nagel and Wasmann have shown, in the palpi. In the antennæ it is usually the club or foliaceous or otherwise formed dilatations which accommodate the cellular ganglion of the antennary nerve. I shall not discuss the histological structure of the nerve-terminations but refer instead to Hicks, Leydig, Hauser, my own investigations and the other pertinent literature, especially to K. Kraepelin's excellent work. I would merely emphasise the following points:

1. All the olfactory papillæ of the antennæ are transformed, hair-like pore-canals.
2. All of these present a cellular dilatation just in front of the nerve-termination.
3. Tactile hairs are found on the antennæ together with the olfactory papillæ.
4. The character and form of the nerve-terminations is highly variable, but they may be reduced to three principal types: pore-plates, olfactory rods, and olfactory hairs. The two latter are often nearly or quite indistinguishable from each other. The nerve-termination is always covered with a cuticula which may be never so delicate.

Other end-organs of the Hymenopteran antenna described by Hicks and myself, are still entirely obscure, so far as their function is concerned, but they can have nothing to do with the sense of

smell, since they are absent in insects with a delicate sense of smell (wasps) and occur in great numbers in the honey-bees, which have obtuse olfactories.

That the antennæ and not the nerve-terminations of the mouth and palate functions are organs of smell, has been demonstrated by my control experiments, which leave absolutely no grounds for doubt and have, moreover, been corroborated on all sides. Terrestrial insects can discern chemical substances at a distance by means of their antennæ only. But in touch, too, these organs are most important and the palpi only to a subordinate extent, namely in mastication. The antennæ enable the insect to perceive the chemical nature of bodies and in particular, to recognise and distinguish plants, other animals and food, except in so far as the visual and gustatory senses are concerned in these activities. These two senses may be readily eliminated, however, since the latter functions only during feeding and the former can be removed by varnishing the eyes or by other means. Many insects, too, are blind and find their way about exclusively by means of their antennæ. This is the case, e. g., with many predatory ants of the genus *Eciton*.

But I will here assume these questions to be known and answered, nor will I indulge in polemics with Bethe and his associates concerning the propriety of designating the chemical antennal sense as "smell." I have discussed this matter elsewhere.¹ What I wish to investigate in this place is the psychological quality of the antennal olfactory sense, how it results in part from observation and in part from the too little heeded correlative laws of the psychological exploitation of each sense in accordance with its structure. I assume as known the doctrines of specific energies and adequate stimuli, together with the more recent investigations on the still undifferentiated senses, like photodermatism and the like, and would refer, moreover, to Helmholtz's *Die Thatsachen in der Wahrnehmung*, 1879. Hirschwald, Berlin.

¹ "Sensations des Insects," *Rivista di Biologia Generale*. Como, 1900-1901. For the remainder see also A. Forel, *Mitth. des Münchener entom. Vereins*, 1878, and *Recueil. Zool. Suisse*, 1886-1887.

When in our own human subjective psychology, which alone is known to us directly, we investigate the manner in which we interpret our sensations, we happen upon a peculiar fact to which especially Herbert Spencer has called attention. We find that so-called perceptions consist, as is well known, of sensations which are bound together sometimes firmly, sometimes more loosely. The more intimately the sensations are bound together to form a whole, the easier it is for us to recall in our memory the whole from a part. Thus, e. g., it is easy for me to form an idea from the thought of the head of an acquaintance as to the remainder of his body. In the same manner the first note of a melody or the first verse of a poem brings back the remainder of either. But the thought of an odor of violets, a sensation of hunger, or a stomach-ache, are incapable of recalling in me either simultaneous or subsequent odors or feelings.

These latter conditions call up in my consciousness much more easily certain associated visual, tactile, or auditory images (e. g., the visual image of a violet, a table set for a meal). As ideas they are commonly to be represented in consciousness only with considerable difficulty, and sometimes not at all, and they are scarcely capable of association among themselves. We readily observe, moreover, that visual images furnish us mainly with space recollections, auditory images with sequences in time, and tactile images with both, but less perfectly. These are indubitable and well-known facts.

But when we seek for the wherefore of these phenomena, we find the answer in the structure of the particular sense-organ and in its manner of functioning.

It is well known that the eye gives us a very accurate image of the external world on our retina. Colors and forms are there depicted in the most delicate detail, and both the convergence of our two eyes and their movement and accommodation gives us besides the dimensions of depth through stereoscopic vision. Whatever may be still lacking or disturbing is supplied by instinctive inferences acquired by practice, both in memory and direct perception (like the lacunæ of the visual field), or ignored (like the

turbidity of the corpus vitreum). But the basis of the visual image is given in the coördinated *tout ensemble* of the retinal stimuli, namely the retinal image.¹ Hence, since the retina furnishes us with such spatial projections, and these in sharp details, or relations, definitely coördinated with one another, the sense of sight gives us knowledge of space. For this reason, also, and solely on this account, we find it so easy to supply through memory by association the missing remnant of a visual spatial image. For this reason, too, the visual sensations are preëminently associative or relational in space, to use Spencer's expression. For the same reason the insane person so readily exhibits halucinations of complicated spatial images in the visual sphere. This would be impossible in the case of the olfactory sense.

Similarly, the organ of Corti in the ear gives us tone or sound scales in accurate time-sequence, and hence also associations of sequence much more perfectly than the other senses. Its associations are thus in the main associations of sequence, because the end-apparatus registers time-sequences in time-intervals and not as space images.

The corresponding cortical receptive areas are capable, in the first instance, merely of registering what is brought to them by the sense-stimuli and these are mainly associated spatial images for sight and tone or sound-sequences for hearing.

Let us consider for a moment how odors strike the mucous membranes of our choanæ. They are wafted towards us as wild mixtures in an airy maelstrom, which brings them to the olfactory terminations without order in the inhaled air or in the mucous of the palate. They come in such a way that there cannot possibly be any spatial association of the different odors in definite relationships. In time they succeed one another slowly and without order, according to the law of the stronger element in the mixture, but

¹It is well known that in this matter the movements of the eyes, the movements of the body and of external objects play an essential part, so that without these the eye would fail to give us any knowledge of space. But I need not discuss this further, since the antennæ of ants are at least quite as moveable and their olfactory sense is even more easily educated in unison with the tactile sense.

without any definite combination. If, after one has been inhaling the odor of violets, the atmosphere gradually becomes charged with more roast meat than violet particles, the odor of roast succeeds that of violet. But nowhere can we perceive anything like a definitely associated sequence, so that neither our ideas of time nor those of space comprise odors that revive one another through association. By much sniffing of the surface of objects we could at most finally succeed in forming a kind of spatial image, but this would be very difficult owing to man's upright posture. Nevertheless it is probable that dogs, hedge-hogs, and similar animals acquire a certain olfactory image by means of sniffing. The same conditions obtain in the sphere of taste and the visceral sensations for the same reasons. None of these senses furnish us with any sharply defined qualitative relations either in space or time. On this account they furnish by themselves no associations, no true perceptions, no memory images, but merely sensations, and these often as mixed sensations, which are vague and capable of being associated only with associative senses. The hallucinations of smell, taste, and of the splanchnic sensations, are not deceptive perceptions, since they cannot have a deceptive resemblance to objects. They are simply paræsthesias or hyperæsthesias, i. e., pathological sensations of an elementary character either without adequate stimulus or inadequate to the stimulus.

The tactile sense furnishes us with a gross perception of space and of definite relations, and may, therefore, give rise to hallucinations, or false perceptions of objects. By better training its associative powers in the blind may be intensified. The visual sensations are usually associated with tactile localisations.

Thus we see that there is a law according to which the psychology of a sense depends not only on its specific energy but also on the manner in which it is able to transmit to the brain the relations of its qualities in space and time. On this depends the knowledge we acquire concerning time and space relations through a particular sense and hence also its ability to form perceptions and associations in the brain. More or less experience is, of course, to be added or subtracted, but this is merely capable of enriching

the knowledge of its possessor according to the measure of the relations of the particular sense-stimuli in space and time.

I would beg you to hold fast to what I have said and then to picture to yourselves an olfactory sense, i. e., a chemical sense effective at a distance and like our sense of smell, capable of receiving impressions from particles of the most diverse substances diffused through the atmosphere, located not in your nostrils, but on your hands. For of such a nature is the position of the olfactory sense on the antennal club of the ant.

Now imagine your olfactory hands in continual vibration, touching all objects to the right and to the left as you walk along, thereby rapidly locating the position of all odoriferous objects as you approach or recede from them, and perceiving the surfaces both simultaneously and successively as parts of objects differing in odor and position. It is clear from the very outset that such sense-organs would enable you to construct a veritable odor-chart of the path you had traversed and one of double significance:

1. A clear contact-odor chart, restricted, to be sure, to the immediate environment and giving the accurate odor-form of the objects touched (round odors, rectangular odors, elongate odors, etc.) and further hard and soft odors in combination with the tactile sensations.

2. A less definite chart which, however, has orienting value for a certain distance, and produces emanations which we may picture to ourselves like the red gas of bromine which we can actually see.

If we have demonstrated that ants perceive chemical qualities through their antennæ both from contact and from a distance, then the antennæ must give them knowledge of space, if the above formulated law is true, and concerning this there can be little doubt. This must be true even from the fact that the two antennæ simultaneously perceive different and differently odoriferous portions of space.¹

¹ It is not without interest to compare these facts with Condillac's discussion (*Treatise on the Sensations*) concerning his hypothetical statue. Condillac shows that our sense of smell is of itself incapable of giving us space knowledge. But it

They must therefore also transmit perceptions and topographically associated memories concerning a path thus touched and smelled. Both the trail of the ants themselves and the surrounding objects must leave in their brains a chemical (odor-) space-form with different, more or less definitely circumscribed qualities, i. e., an odor-image of immediate space, and this must render associated memories possible. Thus an ant must perceive the forms of its trail by means of smell. This is impossible, at least for the majority of the species, by means of the eyes. If this is true, an ant will always be able, no matter where she may be placed on her trail, to perceive what is to the right, left, behind or before her, and consequently what direction she is to take, according to whether she is bound for home, or in the opposite direction to a tree infested with Aphides, or the like.

Singularly enough, I had established this latter fact in my "Études Myrméologiques en 1886" (*Annales de la Société Entomologique de Belgique*) before I had arrived at its theoretical interpretation. But I was at once led by this discovery in the same work to the interpretation just given. Without knowing of my work in this connection, A. Bethe has recently established (discovered, as he supposes) this same fact, and has designated it as "polarisation of the ant-trail." He regards this as the expression of a mysterious, inexplicable force, or polarisation. As we have seen, the matter is not only no enigma, but on the contrary, a necessary psychological postulate. We should rather find the absence of this faculty incomprehensible.

But everything I have just said presupposes a receptive brain. The formation of lasting perceptions and associations cannot take place without an organ capable of fixing the sense-impressions and of combining them among themselves. Experience shows that the immediate sensory centers are inadequate to the performance of this task. Though undoubtedly receptive, they are, nevertheless, incapable of utilising what has been received in the development

is different in the case of the topochemical sense of smell in combination with the antennary movements. Here Condillac's conditions of the gustatory sense are fulfilled.

of more complex instincts and can turn it to account only in the grosser, simpler reflexes and automatisms. To be sure, a male ant has better eyes than a worker ant, and probably quite as good antennæ, but he is unable to remember that he has seen and is especially incapable of associating it in the form of a trail-image, because he is almost devoid of a brain. For this reason he is unable to find his way back to the nest. On the other hand, it is well known that the brain of a man who has lost a limb or whose hearing is defective, will enable him to paint pictures with his foot, write with the stump of an arm or construct grand combinations from the images of defective senses.

I venture, therefore, to designate as topochemical the olfactory antennal sense of honey-bees, humble-bees, wasps, etc.

Can we generalise to such an extent as to apply this term without further investigation to all arthropods. To a considerable extent this must be denied.

In fact the multiformity in the structure and development of the arthropod sense-organs is enormous, and we must exercise caution in making premature generalisations.

It is certain that in some aerial insects the olfactory sense has dwindled to a minimum, e. g., in those species in which the male recognises and follows the female exclusively by means of the eyes, as in the Odonata (dragon-flies). To insects with such habits an olfactory sense would be almost superfluous. Here, too, the antennæ have dwindled to diminutive dimensions.

But there are insects whose antennæ are immovable and quite unable to touch objects. This is the case in most Diptera (flies). Still these antennæ are often highly developed and present striking dilatations densely beset with olfactory papillæ. By experiment I have demonstrated the existence of an olfactory sense in such Dipteran antennæ, and I have been able to show that, e. g., in *Sarcophaga vivipara* and other carrion flies, the egg-laying instinct is absolutely dependent on the sensation of the odor of carrion and the presence of the antennæ. In these cases the contact-odor sense is undoubtedly absent. More or less of a topochemical odor-sense at long range must, of course, be present, since the antennæ are

external, but the precision of the spatial image must be very imperfect, owing to the immobility of the antennæ. Nevertheless, flies move about so rapidly in the air that they must be able by means of their antennæ to distinguish very quickly the direction from which odors are being wafted. These insects do, in fact, find the concealed source of odors with great assurance. But this is no great art, for even we ourselves are able to do the same by sniffing or going to and fro. But the flies find their way through the air with their eyes and not at all by means of their sense of smell. Hence their olfactory powers probably constitute a closer psychological approximation to those of mammals than to the topochemical odor-sense of ants, for they can hardly furnish any constant and definite space-relations.

Even in many insects with movable antennæ and of less ærial habits, e. g., the chafers and bombycid moths, the antennal olfactory sense is evidently much better adapted to function at a distance, i. e., to the perception of odors from distant objects, than to the perception of space and trails. Such insects find their way by means of their eyes, but fly in the direction whence their antennæ perceive an odor that is being sought.

A genuine topochemical antennal sense is, therefore, probably best developed in all arthropods, whose antennæ are not only movable in the atmosphere, but adapted to feeling of objects. In these cases the still imperfect topochemical odor-sense for distances can be momentarily controlled by the contact-odor-sense and definitively fixed topographically, i. e., topochemically, as we see so extensively practised in the ants.

It would be possible to meet this view with the objection that a contact-odor sense could not accomplish much more than the tactile sense. I have made this objection to myself. But in the first place it is necessary to reckon with the facts. Now it is a fact that insects in touching objects with their antennæ mainly perceive and distinguish the chemical constitution of the objects touched and heed these very much more than they do the mechanical impacts also perceived at the same time. Secondly, the tactile sense gives only resistance and through this, form. On the other hand,

the multiplicity of odors is enormous, and it is possible to demonstrate, as I have done for the ants, and Von Buttel-Reepen for the bees, that these animals in distinguishing their different nest-mates and their enemies, betray nothing beyond the perception of extremely delicate and numerous gradations in the qualities of odors.

In combination with topochemical space-perception, these numerous odor-qualities must constitute a spatial sense which is vastly superior to the tactile sense. The whole biology of the social Hymenoptera furnishes the objective proof of this assertion.

It would certainly be well worth while to investigate this matter in other groups of arthropods which possess complex instincts.

In conclusion I will cite an example, which I have myself observed, for the purpose of illustrating the capacity of the topochemical olfactory sense.

The American genus *Eciton* comprises predatory ants that build temporary nests from which they undertake expeditions for the purpose of preying on all kinds of insects. The *Ecitons* follow one another in files, like geese, and are very quick to detect new hunting grounds. As "ants of visitation," like the Africo-Indian species of *Dorylus*, they often take possession of human dwellings, ferret about in all the crevices of the walls and rooms for spiders, roaches, mice, and even rats, attack and tear to pieces all such vermin in the course of a few hours and then carry the booty home. They can convert a mouse into a clean skeleton. They also attack other ants and plunder their nests.

Now all the workers of the African species of *Dorylus* and of many of the species of *Eciton* are totally blind, so that they must orient themselves exclusively by means of their antennal sense.

In 1899 at Faisons, North Carolina, I was fortunate enough to find a temporary nest of the totally blind little *Eciton carolinense* in a rotten log. I placed the ants in a bag and made them the subject of some observations. The *Eciton* workers carry their elongate larvæ in their jaws and extending back between their legs in such a position that the antennæ have full play in front.

Their ability to follow one another and to find their way about rapidly and unanimously in new territory without a single ant go-

ing astray, is incredible. I threw a handful of Ecitons with their young into a strange garden in Washington, i. e., after a long railway journey and far away from their nest. Without losing a moment's time, the little animals began to form in files which were fully organised in five minutes. Tapping the ground continually with their antennæ, they took up their larvæ and moved away in order, reconnoitering the territory in all directions. Not a pebble, not a crevice, not a plant was left unnoticed or overlooked. The place best suited for concealing their young was very soon found, whereas most of our European ants under such conditions, i. e., in a completely unknown locality, would probably have consumed at least an hour in accomplishing the same result. The order and dispatch with which such a procession is formed in the midst of a totally strange locality is almost fabulous. I repeated the experiment in two localities, both times with the same result. The antennæ of the Ecitons are highly developed, and it is obvious that their brain is instinctively adapted to such rapid orientation in strange places.

In Columbia, to be sure, I had had opportunities of observing, not the temporary nests, but the predatory expeditions of larger Ecitons (*E. Burchelli* and *hamatum*) possessing eyes. But these in no respect surpassed the completely blind *E. carolinense* in their power of orientation and of keeping together in files. As soon as an ant perceives that she is not being followed, she turns back and follows the others. But the marvellous fact is the certainty of this recognition, the quickness and readiness with which the animals recognise their topochemical trail without hesitation. There is none of the groping about and wandering to and fro exhibited by most of our ants. Our species of *Tapinoma* and *Polyergus* alone exhibit a similar but less perfect condition. It is especially interesting, however, to watch the *perpetuum mobile* of the antennæ of the Ecitons, the lively manner in which these are kept titillating the earth, all objects, and their companions.

All this could never be accomplished by a tactile sense alone. Nor could it be brought about by an olfactory sense which furnished no spatial associations. As soon as an Eciton is deprived of its

two antennæ it is utterly lost, like any other ant under the same circumstances. It is absolutely unable to orient itself further or to recognise its companions.

In combination with the powerful development of the cerebrum (*corpora pedunculata*) the topochemical olfactory sense of the antennæ constitutes the key to ant psychology. Feeling obliged to treat of the latter in the preceeding lecture, I found it necessary here to discuss in detail this particular matter which is so often misunderstood.¹

¹ In his latest *Souvenirs entomologiques* (Seventh Series) J. H. Fabre has recorded a number of ingenious experiments showing the ability of the males of *Saturnia* and *Bombyx* to find their females at great distances and in concealment. He tried in vain (which was to have been foreseen) to conceal the female by odors which are strong even to our olfactories. The males came notwithstanding. He established the following facts: (1) Even an adverse wind does not prevent the males from finding their way; (2) if the box containing the female is loosely closed, the males come nevertheless; (3) if it is hermetically closed (e. g., with wadding or soldered) they no longer come; (4) the female must have settled for some time on a particular spot before the males come; (5) if the female is then suddenly placed under a wire netting or a bell-jar, though still clearly visible, *the males nevertheless do not fly to her, but pass on to the spot where she had previously rested and left her odor*; (6) the experiment of cutting off the antennæ proves very little. The males without antennæ do not, of course, come again; but even the other males usually come only once: their lives are too short and too soon exhausted.

At first Fabre did not wish to believe in smell, but he was compelled finally, as a result of his own experiments, to eliminate sight and hearing. Now he makes a bold hypothesis: the olfactory sense of insects has two energies, one (ours), which reacts to dissolved chemical particles, and another which receives "physical odor-waves," similar to the waves of light and sound. He already foresees how science will provide us with a "radiography of odors" (after the pattern of the Roentgen rays). But his own results, enumerated above under (4) and (5) contradict this view. The great distances from which the *Bombyx* males can discern their females is a proof to him that this cannot be due to dissolved chemical particles. And these same animals smell the female only after a certain time and smell the spot where she had rested, instead of the female when she is taken away! This, however, would be inconceivable on the theory of a physical wave-sense, while it agrees very well with that of an extremely delicate, chemical olfactory sense.

It is a fact that insects very frequently fail to notice odors which we perceive as intense, and even while these are present, detect odors which are imperceptible to our olfactories. We must explain this as due to the fact that the olfactory papillæ of different species of animals are especially adapted to perceiving very different substances. All biological observations favor this view, and our psycho-chemical theories will have to make due allowance for the fact.

ZURICH, SWITZERLAND.

AUGUST FOREL.

THE STILL SMALL VOICE.

NEVER has there been a time in which the changes that took place in man's religious attitude were more significant than during the last decade, and yet the period of transition is so little marked by any ostentation, or noise, or excitement that the fact itself might easily be overlooked by a superficial observer.

When the Reformation set in we had a vigorous clashing of opinions; public debates were held that kept the world in suspense; œcumenical councils convened; the Diet of the German empire, then the centre of the world, legislated on the religious situation; Papal bulls and imperial decrees were issued; the boldest dissenters were burned at the stake—a method of enforcing uniformity of belief from which even Protestants did not shrink; the opposed parties rushed to arms, and most sanguinary wars were waged, accompanied by famines and epidemics. A period of the most terrible barbarism set in, in which all the powers of Hell seemed to be let loose; cities were demolished, villages burned down, and whole provinces laid waste, until by sheer exhaustion peace was restored.

Think of the millions of human lives sacrificed upon the altar of religious freedom, and yet, even at that price, the Reformation was not too dearly bought; for our present culture with all its blessings, our liberty of conscience, free investigation, scientific progress, and following in its trail invention and prosperity, are the glorious consequences which may all be traced back to the struggle for liberty, to the religious reform begun by Wyckliffe and Huss, culminating in Luther, defended by Gustavus Adolphus, and victoriously maintained after the terrible Thirty Years' War.

It is no accident that the Protestant countries are marching in

the van of civilisation. It is among them, more than in Roman Catholic or Greek Catholic countries, that science has slowly but surely laid the foundation of a higher civilisation built upon the ruins of the past, and here in the United States we feel its blessings more than in any other country.

There is at present another reform going on, which in its intrinsic tendency and main import is nothing but the consequence of Luther's demand for the freedom of the Children of God. Liberty of conscience, as demanded by Luther, includes free investigation; and the quiet reformation that is going on now is due to the influence of science upon religion.

Reactionary historians, however, claim that we are on the high road to ruin. They tell us that the reformers clamored for freedom but established license, and that the final result will be political and religious anarchy. The reformed churches, it is claimed by Roman Catholic critics, (and there is some truth in it,) stand on a slanting platform. Their position is inconsistent. Having cast off the authority of the established Church they are driven by inexorable logic to deny all authority in both religion and government. They called for a free Bible and now they suffer from the cancer of the higher criticism; they granted the liberty of theological investigation, and now one dogma after another is condemned before the tribunal of science. While the Roman Church, built upon the rock of St. Peter, remains the same and shows a strong united front, Protestantism has from time to time to change its position and is divided into as many sects as there are different opinions.

There is a truth in this censure of the Protestant position, yet the question is whether the stability of Roman Catholicism is so very desirable. Are not these changes symptoms of life and indispensable accompaniments of progress?

The change in our religious attitude that is coming on slowly and surely, that is taking place under our very eyes, is of a peculiar kind. It is the power of thought within, which comes as a still small voice, a silent power that brooks no violence, a spiritual movement that is not in need of swords or guns to assert its principles. It is the influence of science upon the minds of the thought-

ful, the honest, the truth-loving, and it comes about by the gradual establishment of a scientific world-conception.

The Reformation of Luther was a moral reformation. It demanded a cleansing of the Church in head and limbs. It swept out the leaven of Roman paganism, with its saint-worship, reverence for relics, hierarchical institutions, indulgence sales and other abuses, and submission to papal authority. The present movement that is transforming our churches is above all an intellectual reform. It is the direct influence of science upon faith, and cleanses the Church of the paganism of dogma. After all it is merely the logical consequence of the recognition of a free science. Its ideal is radical honesty of thought.

The influence of science upon religion is a reformation that (like the kingdom of heaven in the time of Christ, indeed like all spiritual movements) works from within. It is taking place in the hearts of the theologians who teach it to the growing generation of clergymen; it spreads with the spread of science and is imperceptibly purifying Christianity, giving it a higher, broader and deeper interpretation.

There are thousands and millions who are not aware of the change; yet the transformation is most radical and will, when it has become a matter of history, be recognised as such. It affects to some extent even the Roman Catholic Church and the result is that Protestants take more kindly to their old adversary and begin to set aside the old grudges against it.

But, is the influence of science not antagonistic to religion? Is it not destroying the Christian faith? Does it not take away the fond illusions of our dearest hopes? Philosophy offers us nothing but empty abstractions, and higher criticism invades the Bible and destroys its sanctity!

Allow me to protest against the popular phrase, "empty abstraction." Abstractions would be empty if they were meaningless. Mathematical formulæ, for instance Kepler's laws, are abstract but they are empty only to the uneducated who do not know their importance. They are freighted with meaning to those who

understand their universal application and appreciate their significance for a scientific comprehension of the world.

Call the philosopher's definition of God an "abstraction," but do not forget that all abstractions represent realities. No one speaks of gravitation as an "empty abstraction," because we know too well that gravity is real. The same is true of the abstractions of the moral factors that build up our life. If the philosopher defines God as the world-order, or as the sum-total of law, or the unity of law, or specifically as the authority of moral conduct, as that which leads living creatures to develop the ideal of justice and love and good-will, or the *raison d'être* of man's spirituality, viz., that which produces man and leads him higher; we have abstractions which cover facts of experiences and these facts, the spiritual features of existence, the moral factors of life, are not less real than is the gravity of stones.

Even Christ speaks of God in abstract terms as "love" and as "spirit," not as "a loving being" nor as "a spirit," and shall we denounce his definitions as empty abstractions?

The spiritual and moral factors of life, the power that makes for righteousness, are a part of the general world-order, but they are its most significant part which gives character to the rest; and it is most important to remember that all the factors which shape the world are not mere words but living presences.

The scientist formulates the uniformities of the world as a multiplicity of natural laws, but there is unity in variety. All of them constitute one great system, one organic whole. They are the eternal in the transient and the universal in the particular. They positively possess qualities which are attributed to God alone. They are as intrinsically necessary as mathematical truths are rigorous. Therefore they are absolutely true. They are true of any possible kind of existence, and would remain true even if the world were annihilated. They apply not only to nature as it is, but to any possible nature. In other words, they are supernatural or hyperphysical in the literal sense of the word.

The supernatural in nature is not corporeal; it is neither concrete nor individual, but universal and non-material. It is compar-

able to a great personality, but I hesitate to call it a personality because these creative factors in their totality are higher than the highest personality; they are the prototype of all human personality. Man becomes man by acquiring reason, and reason is nothing but the vision of the eternal, a comprehension of the absolute, an appreciation of the universal. If we speak of the supernatural as a personality, we must know that it is not a human personality but a divine personality, and thus the scientific view of God (Nomothicism, as we might call it), which sees in the laws of nature, the eternal thoughts of God, does not declare either a personal or an impersonal God, but a superpersonal God.

Sensual natures need sensual allegories, and mythology is required in the period of the childhood of the race, but maturer minds will take no offence at the more exact methods of scientific conceptions.

Everyone's God-conception is the measure of his own stature. A sensual man, incapable of abstract thought, should have a mythological and anthropomorphic God-conception, otherwise he would look upon God as an empty phrase. A philosophical definition would not impress him as describing a reality; and though his mythological belief would in details be subject to error, he would in the main act rightly, for mythology, though not the truth, can very well serve as a surrogate for the truth and will retain its poetical value even when its fairy-tale character is beginning to be understood.

Our notions of a heaven above the clouds, and a brimstone hell, and many other religious conceptions, have become mythological, but they have not lost their meaning. The curse of sin and the bliss of righteousness remain as real as they ever were, and if there are people who still believe in a brimstone hell, we may be sure that they still stand in need of a sensual imagery. A purer conception would be an empty abstraction to them, for every one's religion ought to keep pace with his mental growth; and as a rule, every one has the religion which he deserves.

The destructive character of science appears to special disadvantage in the field of Bible literature. Our religious traditions,

no longer assured facts of history, are changed into legends and myths. The first chapter of Genesis has been degraded into the mere echo of a pagan cosmology. Samson is the Babylonian Shamash, a Hebrew Hercules, the sun-god on his migration, who performs his twelve labors and loses all strength when his hair, the solar rays, is cut off. The Book of Esther is the myth of Ishtar and Marduk. The stories of Abraham and Lot have become Hebrew folklore, and the very name, "Jehovah," endeared to us through church hymns, has become a philological monstrosity, while the Hebrew "Yahveh," which now takes its place, signifies a tribal deity, which, closely considered, is not very different from the Phœnician Baal and the Moabite Chemosh. The monotheistic conception appears now as the result, not so much of a direct revelation, as of a long historical development. In a word, the inroads which science made from all sides are so formidable that nothing worth speaking of seems to be left.

The uniqueness of the Hebrew revelation too is gone. Moses is now paralleled by Hammurabi, and Isaiah by Zarathushtra, the golden rule was pronounced more than half a millennium before Christ by Confucius, and love of enemies has been preached by Buddha and Lao-Tze. Obviously the uniqueness of our revelation is unique to *us* because it is *ours*. The Egyptians, too, considered themselves the chosen people; so did the Brahmans, so the Chinese, so does every nation on earth in a stage of immaturity. Greek cosmopolitanism is the first symptom of a higher civilisation with broad humanitarian ideals.

Yet, suppose that *our* civilisation should finally conquer all others, (which can be done by absorbing them, by accepting their good features,) the uniqueness of *our* religion would become a universal uniqueness, but it would be developed by the breadth of a genuine catholicity. Man's religious conceptions too are subject to the laws of a survival of the fittest, and in the long run truth alone will prove strong.

The aim of the religious development of mankind is determined by truth, and objectively determined truth is, in a word, called science; but the course of evolution might have run over different

paths. If the prophets of monotheism had not risen among the Jews, or if the monotheistic reformers had not formulated their faith and incorporated it in their redaction of the Hebrew scriptures, monotheism would after all have risen; but it would have come to the front in another place and through some other medium perhaps in Persia, where a very pure conception of the Deity was dawning.

In fact we know that the Persian religion exercised an enormous influence upon the Jews in Babylon, and Mazdaism is as elevating and noble as the prophetic movement in Israel. If Persian monotheism had met with universal acceptance, the place of Moses would have been taken by Zarathushtra and the place of David by Cyrus, the great founder of the Persian empire, whom Isaiah called "the anointed one of the Lord," "the Messiah of Yahveh."

There is no need of ventilating the question whether our religious development would have been better if it had taken a different course, but it is well to know what might have been. If we had received our monotheism from the Persians, our theologians would quote from the Avesta; if we had learned the ethics of "love of enemies" from Buddha, they would study the Dhammapâda and other Pâli scriptures. In either case these other Bibles would have become canonical and held a unique place in our literature, but the great outlines of our religious growth would have remained the same.

Having learned that in several countries the same, or a similar, evolution is taking place according to an intrinsic law of nature, the idea has been proposed that all religion is purely human—and truly it is. All religious evolution is purely human, just as the present movement, the influence of science upon our belief is purely human. Yet in spite of the purely human character of scientific investigation, we find that science itself is possessed of an element that is superhuman.

Science is not a product of man's fancy. Man can neither make nor mar scientific truth. He cannot manufacture it to suit his pleasure. Scientific truths are eternal verities. Man does not invent them; man discovers them. Science is nothing but the tracing of those features of nature which are eternal. It is the dis-

covery of the laws that shape the universe and guide the evolution of the world. Science accordingly is purely human only in its subjective aspect; the objective norm of science and its results are beyond human interference. There is a deep truth in the old doctrine of the God-man, for the ideal of perfect humanity is a theophany—an incarnation of the Deity. The human element of the scientist's labors does not exclude the divinity of science. The truths discovered by science are the eternal laws of being which cannot be made or unmade, changed or altered by any mortal, be he ever so powerful and grand, be he king or emperor or pope.

Verily and truly, science, if it but be genuine science, is a divine revelation, and the spread of a scientific world-conception is the coming of the Holy Ghost, the Spirit of God who will guide us into all truth. (John xvii. 13.)

Whenever a scientist discovers a truth, he receives a revelation from on high; whenever he comprehends a law, he deciphers the hieroglyphs of a thought of God; whenever he gains a new insight into the constitution of the world either in its general significance or its special reference to man's duties, he should in reverence take off his shoes, for he is in the presence of God.

Yet while science is divine and applicable to the whole range of life, including the domain of religious belief, while science should not be twisted to suit the purposes of dogmas of an established religion, we must bear in mind the difference between religion and science.

The clergyman is appointed to spread religion; his first duty is his pastoral work; he is sent out as an adviser and counselor to the members of his congregation, to comfort them in affliction, to stablish them in the love of truth and honesty, to strengthen them in temptation, to elevate their minds and consecrate their lives to a higher purpose than transient pleasures. He is not expected to deliver scientific discourses, be it on physics or bacteriology or the Higher Criticism. He should address himself to the heart, not to the head. Even in a scientific age the maxim remains true, *pectus facit theologum*, "it is the heart that makes the clergyman." But the progress of the age demands that the clergyman

should have a scientific training, otherwise he runs the risk that the members of his congregation stand above him and he will in consequence lose his hold on their minds.

A clergyman should be familiar with the scientific method, its exactness and its rigor; he should have imbibed the spirit of science, and it would be well if he had devoted some time to the study of some specialty, mathematics, mechanics, physics, or physiology; but at the same time, while becoming scientific, he should not be changed into a scientist. He should bear in mind the purpose of his profession. He should be a teacher, an adviser, a pastor, a guide through the labyrinth of life.

But if the main burden of pastoral work lies in the moral field, why should we not abandon religion and preach pure morality? In reply I would say that religion as I conceive it is the basis of all morality. Religion implies a world-conception and morality is nothing but the application of a man's belief as to his destiny in life to practical problems; for religion is conviction, specifically that conviction which refers to the entirety of existence. Conviction is a power which dominates the will. Conviction is the motive, which determines the action of man; conviction is that which gives character to his personality. There is no such thing as non-religious ethics.

Religion consists in sentiment, but the nature of sentiment depends upon the idea by which it is inspired. There is no sentiment which is nothing but sentiment; all real sentiment possesses definite contents. Sentiments are directed toward an aim and the contents of religious sentiments are formulated in doctrines. Doctrines naturally constitute the backbone of religion and doctrines may either be right or wrong. They may be mere assumptions (commonly called dogmas) based on insufficient knowledge, or they may be sound truths which can stand the test of science and will pass through the furnace of critique unscathed.

In former ages belief (in the sense of insufficient knowledge) has been extolled but we know now that we can have a faith well founded,—a faith the application of which in the domain of conduct can be justified by inquiry and by experience.

Agnosticism is an untenable position which, though invented to stifle religion, chokes science. If agnosticism were true, science would have no right to interfere with blind belief, but superstition would be entitled to the same respect as any pure and noble faith. Agnosticism pretends to take an advanced position, but it is as reactionary as it is wrong. It is not true that the problems of God, his existence or non-existence, his nature and his dispensation, of the soul and immortality, of the destiny and duty of man, etc., lie outside the pale of investigation. We can in all these questions as much as in mathematics, or physics, or chemistry, find out the truth and distinguish between right and wrong, between orthodoxy and error, between good and evil. Agnosticism falls like a blight on the spirit of enquiry; it makes one blasé and disheartens the thinker, the inventor, the student. What our young men need is belief in science, not this pernicious and unjustifiable awe of nescience.¹

But would not science thus reintroduce the antiquated horrors of dogmatic orthodoxy? Scarcely! For the new orthodoxy of provable truth will not brook violence and will be a blessing to all those who love clearness and definiteness.

The old venerable word "orthodoxy" has been greatly misused in past ages, and has thus rightly acquired a savor of narrowness. Nevertheless, the ideal of seeking and having the right doctrine is not only legitimate but indispensable and should not be abandoned.

Only let us substitute the orthodoxy of sound doctrine for the old ideal of an orthodoxy of dogma.²

The old orthodoxy clung to certain dogmas established by tradition and sanctioned by œcumenical councils. Dogmas, as a rule, are symbols, i. e., formulations of the faith in allegorical language; they are collected in the symbolical books. The upholders of ancient orthodoxy were narrow-minded and scorned every one who used other allegories or other rituals, even if the meaning was the

¹ For a discussion of Agnosticism see the author's pamphlet *Kant and Spencer*.

² See the author's article "The New Orthodoxy" in *The Monist*, Vol. VI., No. 1, pp. 91-98, republished in *The Dawn of a New Religious Era*, pp. 21-30. Chicago: The Open Court Publishing Co.

same. The new orthodoxy would not be a stickler for words and similies but would insist on essentials.

You notice that I make a difference between dogma and doctrine, between belief and faith: I discard the former, I retain the latter; and at the same time I cling to the old ideals of catholicity and orthodoxy. But I insist that our catholicity be catholic, not Roman, or Greek, or Anglican; but as universal as is science. I insist that orthodoxy be genuine rightness of opinion, not an orthodoxy of dogma, of belief based upon insufficient knowledge, but an orthodoxy of doctrine, of objectively provable truths.

The essentials of a religion may be classified under the heads of God, Soul, and World as follows:

First, there must be a standard of right and wrong, which can be discovered by experience and finds in man's conscience an instinctive expression. The ultimate authority of conduct is commonly called "God."

Secondly, if religion shall regulate man's conduct, he must be shown that he is responsible for his actions and their consequences. He has the choice between good and evil, and the very idea that he is held responsible will become an important factor in his decision. Hence the importance of the dogma of free will.

Finally, we are concrete beings, and all concrete existence involves temporal and spatial limitations. In other words, we are limited parts of an unlimited whole, and we should have a clear conception toward our beyond as to both time and space. As to time, we should know our relation: (1) toward the past, viz., our pre-existence, our indebtedness to former generations, and (2) our post-existence, i. e., our mode of life after death, viz., our immortality in times to come. As to space, we must comprehend our kinship to other sentient beings, especially to our fellow-men.

We do not mean here to enter into further details, especially as we have repeatedly discussed the several problems of God, freedom, immortality, the sonship of man, and the brotherhood of mankind, etc.; and trust that a philosophy of religion such as that outlined here will be needed by our theologians in the measure that

people begin to feel the want of a philosophical and tenable explanation of the true significance of the old dogmas.

There is much objection to theology and even pulpiteers sometimes denounce it. Some would-be reformers imagine that all trouble in the churches comes from theology, from the intrusion of scientific thought into the domain of religious feeling. The truth is the very reverse. We need not less but more theology, and by "theology" I understand simply, the science of religion. We need a radical theology reverent toward the past, respectful in tone, considerate of the faith of others, even if it be erroneous, yet unshrinking and uncompromising as to the essentials of truth. If the present reformation is a reformation of the intellect, rather than the heart, salvation can come alone from the science of religion, from theology.¹

The idea prevails within and without the churches that the liberal thought which is at present invading the study of the Bible, comes from the circles of Freethinkers or infidels. That is a strange error. The scientific interpretation of the Scriptures comes exclusively from theologians. Ingersoll has written the *Mistakes of Moses*, but his criticism of the Pentateuch is on the surface. He really could have made his onslaught on the Scriptures much more formidable, if he had been acquainted with the labors of modern theologians. Avowedly irreligious people sometimes utilise chips from the theological work-shop, but, as a rule, they do not study, they do not search and investigate, they do no plodding. The plodding has been done and is still being done in theological schools, at the seminaries and universities in this country as well as abroad, and especially in Germany. All the so-called "destructive critics" are theologians. With very few exceptions they are professors of theology in good standing; Harnack, who wrote *The History of the Dogma*, Holzmann, our greatest authority on the New Testament,

¹ To characterise the New Theology which to the Old Theology bears the same relation as astronomy bears to astrology, the author proposed the term "Theonomy." See the editorials on "Theology as a Science" in *The Monist*, Vol. XII., No. 4, and Vol. XIII., No. 1. See also the author's articles "God," "Unmateriality of God and Soul," "The Personality of God" in *The Monist*, Vol. IX., No. 2, and "The Personality of God" in *The Open Court*, Vol. XI., No. 10.

De Wet, Kuenen, Wellhausen, Cornill, Delitzsch, Gunkel, and other Old Testament scholars are not only theologians themselves but descendants from theological families, and their very fathers are known as great lights in the orthodox circles of Protestant Christendom.

And there is no frivolity in the destructive side of the higher criticism. Most of our higher critics have reached their conclusions in spite of themselves, in spite of their beliefs, and though the destructive side is perhaps as yet the most assured part of their work, it will prove wholesome in the end. The higher criticism destroys not the Scriptures, not theology, not religion, but only a wrong interpretation of the Scriptures, a narrow conception of theology, the pagan features of religion.

Science is never destructive except of illusions. It does not destroy truth, it destroys error. Its destruction will soon prove to be a mere clearing for a new and better construction, and this is true as well of the higher criticism, as of the philosophical foundation of theology. In place of a narrow belief, we shall have a wider and yet not less definite faith with higher ideals and a broader outlook.

M. Guyau, an unusually gifted thinker, a representative of modern science in France, wrote a book on *The Irreligion of the Future*; but his judgment was limited to a consideration of the situation in his own country. In the clash of party strife he rejected the religion of ecclesiastical dogmatism and espoused the cause of irreligious science. He saw no middle-ground. He was sufficiently familiar with science to know that scientific truth must in the end gain the victory; but he did not understand its religious meaning. Had he listened to its less obvious but not less significant message, he would have appreciated the divinity of science, he would have learned that there is a higher God-conception than the anthropomorphism of dogma and that all truth is holy; and science, the revealer of truth, is the still small voice of divine revelation.

EDITOR.

A BUDDHIST GENESIS.¹

THIS document is translated from the twenty-seventh Dialogue of the Long Collection (*Dīgha-Nikāya*). It occurs in a discussion on the caste question; but that it is a book in itself is clear from the fact that a rival recension of the Scriptures has transmitted it in a different connection, and with a different title. This rival recension is that of the Sublime Story (*Mahāvastu*), an expanded portion of the Book of Discipline belonging to the sect called the Transcendentalists or Docetists (*Lokottaravādīna*), which is a branch of the Great Council School (*Mahāsaṅghika*). Now the Great Council was the rival sect of the School of the Elders (*Theravāda*) who have preserved the Scriptures in Pāli. The Great Council preserved them in some kind of Prākṛit, which has since been partially Sanskritised. We have therefore this old Buddhist Genesis in two different Indian languages (to say nothing of a fifth-century translation into Chinese); transmitted by two different sects which parted company in the pre-Christian period of Buddhism; and in two different portions of the Canon: viz., the Book of Dialogues (*Sutta-Piṭakam*) and the Book of Discipline (*Vinaya-Piṭakam*). In the former (in Pāli) it is entitled the Dialogue Primeval (*Aggañña-suttam*) and in the latter, The History of Kings. These two ancient recensions agree in the main, but are verbally different. When an old document has such a transmission, its antiquity is well established.

The Buddhist Genesis was epitomised by Robert Spence Hardy in his *Manual of Buddhism* (*sic*) published at London in 1853. But

¹Translated from the Pāli by Albert J. Edmunds, Philadelphia.

Hardy translated not from the Pâli texts, but from mediæval Singhalese commentaries, which in turn are based upon Pâli texts and commentaries combined. Therefore we can never be sure, when reading Spence Hardy, how much of a narrative is from the primitive text and how much has been expanded or exaggerated from commentaries in Pâli and Singhalese.

An account of the Great Council version has been given in French by Émile Senart, in the Introduction to Vol. I. of his splendid edition of the Mahāvastu (Paris, 1882). So corrupt and difficult is the text that even this learned Prâkrit scholar shrank from giving a verbal translation, but contented himself with an epitome.

A brief account in English, based upon the Pâli recension, has been given by Rhys Davids, in his *Dialogues of the Buddha* (London, 1899, p. 105). Samuel Beal translates two versions from the Chinese, the second one being from the Long Collection. (*Four Lectures*: London, 1882, pp. 151-155.)

The present is the first translation of the text itself, and is made from the King-of-Siam's edition, printed in Siamese characters, in Vol. XI. of his thirty-nine volumes of the Pâli Canon, which was published at his capital in 1894, and in 1895 distributed throughout the world to universities and libraries. There are two copies in Philadelphia: viz., at the University of Pennsylvania and the Mercantile Library. In 1905 it is expected that the Pâli Text Society of London will print our present Genesis text in Roman letters, when it will be much easier to read.

We cannot here discuss the many questions raised by this ancient book. Suffice it to say that the idea of Genesis as a fall is ancient, and the interpretation of Paradise as a spiritual state instead of a material one is now regarded by a high authority to be the original conception of Eden in the Babylonian mythology.¹ The Christian student will be aware that such an interpretation was given to the Hebrew Genesis by Philo the Jew of Alexandria, at the time of Christ; by Origen of Alexandria, in the third cen-

¹ *Babylonian and Hebrew Genesis*. By Heinrich Zimmern. London, 1901, p. 33.

tury; by Jacob Boehme of Görlitz in the sixteenth, and by Emanuel Swedenborg of Stockholm, in the eighteenth.

The exact date of our document cannot be fixed, but after years of research I am satisfied that the Pāli Canon existed, in its main constituents, if not in its present form, at the Council of Vaṭṭagāmini, about B. C. 40,¹ in the ancient capital of Ceylon. At this Council the sacred lore, which had hitherto been oral, was committed to writing, say the Ceylon Chronicles; and a number of facts, which cannot be detailed here, give probability to the statement. Even if only the older parts of the Canon existed then, the Genesis document was certainly among them, because transmitted by a branch of the rival sect which had split off from the sect of Ceylon (the School of the Elders) some centuries before. The Buddhist tradition maintains that this document, together with most of the Dialogues and Discipline, was fixed in its present form by the Council of Rājagaha, upon Buddha's decease in the fifth century before Christ. But while criticism allows that something was settled then, it cannot admit so early a redaction for a literature bearing all the marks of long development. We may safely say, then, that the Buddhist Genesis was composed between the fifth and the first centuries before Christ.

How far the main idea of our document can be regarded as compatible with the underlying philosophy of the teachings of Buddha himself, does not fall within the scope of our investigation.

ALBERT J. EDMUNDS.

EASTER, 1902.

THE DIALOGUE PRIMEVAL (AGGAÑÑA-SUTTAM).²

O Vāseṭṭhā,³ there is a season, at vast intervals in the lapse of time, when this world is dissolved; and upon the world's dissolution, the inhabitants are mostly brought together in the heaven of

¹ Kern's corrected date.

² The discussion on caste, which precedes, is omitted, being no part of the Genesis document.

³ The plural name of two Brahmin disciples, to whom Gotamo addresses the account. Hereafter we omit it: it occurs in every paragraph.

the Radiant, and there they dwell for a long, long period, mind-made, feeders on joy, self-resplendent, traversing the sky, and abiding in goodness.

Again, there is a season, at vast intervals in the lapse of time, when this world is re-evolved; and upon the world's evolution, people disappear from the host of the Radiant and come down hither.¹ And they are mind-made, feeders on joy, self-resplendent, traversing the sky, and abiding in goodness. [And so] do they dwell for a long, long period.

Now at that season there is gloom and darkness universally: moon and sun are known not; stars and constellations are not known; nor night and day, nor month and fortnight, nor seasons of the year. Women and men are known not, but people say: "Sentient beings only are considered."²

Now for those beings there arises, after a vast interval in the lapse of time, a savory earth everywhere upon the water. Even as the tree of paradise on high is to a self-restrained one who is reaching Nirvâna, such does it appear. It was endowed with color, scent, and savor like unto ghee and butter: such was its color. And even as a little honey undefiled, such was its taste.

Then some luxurious person saying, "Oh! What can this be?" tasted with his finger the savory earth, and as soon as he had done so, craving³ therefor became clothed and entered in. Others also, following the example of that being, tasted the savory earth with a finger. When they had done so, craving became clothed and entered in.

Then people approached the luxurious savory earth, to partake of it with their hands, and forthwith their self-radiance disappeared. When their self-radiance was gone, the moon and sun were mani-

¹ A corrupt change in the Prâkrit, of the Pâli words *itthattañ ñacchanti* into *iccha-svam-ñacchanti*, has given rise to the idea, in the Mahāvastu, that they go whither they please. Then a gloss adds that this is always the rule: they always go whither they desire.

² The word rendered "inhabitants," "people," and "sentient beings" is the same in the Pâli.

³ Craving, literally thirst. It is a technical term in Buddhist metaphysics for the will to live, which necessitates personal existence.

fested, and with them the stars and constellations. With these again came night and day, and with night and day the months and the fortnights, and with the last the seasons of the year. Thus was this world again evolved.

Now people remained a long, long time enjoying the savory earth for their food and support; and so long as they did thus, mere coarseness entered into their bodies and differences of caste arose.¹ Some people were beautiful and others were ugly. Then those who were beautiful despised the ugly ones and said: "We are handsomer than these; they are uglier than we." And by reason of their conceit of color the savory earth disappeared among those born with pride and conceit. When the savory earth had vanished, they met together and lamented, saying: "Oh, the savor! oh, the savor!" Even now, when men have taken some surpassing² dainty they say the same: "Oh, the savor! Oh, the savor!" In this they imitate exactly the ancient primeval men, but know not the meaning thereof.

After the savory earth had disappeared, there sprang up for those people a fine kind of moss. It was somewhat like a mushroom, and in color, scent, and savor was like unto ghee or butter. And even as a little honey undefiled, such was its taste.

³Then, as before, they ate the fine moss and lived a long time thereon, while coarseness entered still more into their bodies, and differences of caste arose. Also, as before, the beautiful despised the ugly, whereupon the fine moss disappeared. When it was gone a sweet creeper sprang up, which was somewhat like the cadamba, and in color, scent, savor, and taste, as the other foods before. The same experience was repeated, and the sweet creeper vanished away. Then they met together and lamented, saying: "Alas for us! Alas! the sweet creeper has failed us!" Even now, when

¹ The word caste is simply color or complexion.

² The word "surpassing" is literally *divine* or *angelic*. As in the Old Testament, this word is used to mean great or fine.

³ Here and in following paragraphs the exact phraseology of the preceding narrative is tediously repeated in the Pāli, but it is no part of a translator's business to perpetuate these mannerisms. Their use is to preserve the text from corruption.

men are touched by some divine catastrophe, they say the same: "Alas for us! Alas, it has failed us!" They recall the very letter of the ancient primeval men, but know not the meaning thereof.

Now, when the sweet creeper had gone from those people, a delicate rice appeared, without coating or husk, pure, sweet-scented, and with the fruit already winnowed. They fetched food at evening for supper, and in the morning it was ripe and grown again. They fetched food in the morning for breakfast, and at evening it was ripe and grown again. It was not known to fail. Then the people lived a long, long time, enjoying the delicate rice for their food and support; and so long as they did thus, mere coarseness entered more and more into their bodies and differences of caste arose.

Then the organ of womanhood appeared in the woman and the organ of manhood in the man. And the woman offered to the man strong drink in excess, and the man unto the woman. And as they did so, passion arose, and suffering entered into their bodies. By reason of the suffering they indulged in the act of sex. Then, when people saw them in those days, indulging thus, some threw dust and others ashes, and others cow-dung, saying: "Perish, vile wench! Perish, vile wench!" And again: "How can one being do such a thing unto another?" Even now, in some country places, when a murderess is being executed, some people throw dust, others ashes, and others cow-dung.¹ They recall the very letter of the ancient primeval men, but know not the meaning thereof.

O Vāseṭṭhā! that was an impious practice in those days, but now it is a pious one. People who, in those days, indulged in the act of sex, were not allowed to return to town or village for two months and three. When those people had fallen into exceeding mischief in that impiety, they began to make houses, in order to hide the impiety. Then it occurred to some idle person: "Why should I be troubled to bring rice at evening for supper and at morning for breakfast? Suppose I now bring it only once every

¹ The Sanskrit here reads: "Monks, just as now, when a maiden is being married, they throw a stick or a clod," etc. This is doubtless the true sense, and the Pāli is probably corrupt.

evening for breakfast." He accordingly did so, and then some one approached him and said:

"Come, fellow-being! let us go and bring some rice."

"Enough, O fellow-being! I only fetch rice once every evening for breakfast."

Thereupon that other, following his example, said: "It would be good indeed to bring the rice only once in two days." Just then some one else approached that person and asked him likewise to go for rice, and he gave the same answer as the first, whereupon the other, following his example, said: "It would be good indeed to bring the rice only once in four days." When another person invited the last one to bring some, he was told about the four-day plan, and forthwith suggested once in eight days as enough. So soon as those people began to eat stored-up rice, then was the grain enveloped by the red coating and the husk; no harvest was reaped; failure ensued, and there were groves on groves of standing rice.

Then the people met together and lamented, saying: "Alas! Evil things have appeared among beings; for of yore we were mind-made, feeders on joy, self-radiant, traversing the sky and abiding in goodness, and so did we long remain. Then, after a vast period, arose the savory earth upon the water, and we ate thereof and lost our splendor, till moon and sun came forth, and stars and starry forms. So night and day, month and half-month and seasons yearly rolled, and we enjoyed the savory earth for long, until by the appearance among us of things wicked and demeritorious the savory earth did fail. Then the fine moss came round, and we lost it likewise; and the sweet creeper and the huskless rice. The rice we gathered morn and even for our meals, a daily harvest; failure was unknown; and so we stayed for long, till for wicked and demeritorious things a coating and a husk did wrap the grain; no harvest was there reaped; failure ensued, and groves on groves are standing. Let us now divide the rice and set a boundary."

So they divided the rice and a boundary did they set.

Now a certain greedy person, while keeping his own share, took a share not given him, and enjoyed it. They arrested him

and said: "Alas! O being, thou hast done a wicked thing, in that thou hast, while keeping thine own share, taken and enjoyed a share ungiven. O being, thou shouldest not do thus."

"Be it so," replied that being to the others. But a second time he stole likewise, and a third; whereupon, after the same reproof, some struck him with their hands, some with clods, and others with staves. And so theft came first to be known, and upbraiding, and lying, and violence.

Then the best people met together, and lamented, saying: "Alas! Evil things have appeared among beings, in that theft has come to be known, and upbraiding, and lying, and violence. Suppose we now elect one being and tell him: 'Do thou rebuke whomsoever is rightly deserving of rebuke, and upbraid or expel whomsoever is rightly deserving thereof; but we will provide for thy share of the rice.'"

Thereupon the people approached a person who was finer, handsomer, pleasanter, and more commanding than the rest, and said: "Come, fellow-being! Rebuke whomsoever is rightly deserving of rebuke, and upbraid or expel whomsoever is rightly deserving thereof; but we will provide for your share of the rice."

"Be it so," replied that person to the rest; and so he rebuked, upbraided, or expelled those rightly deserving thereof, while they provided for his share of the rice.

Now because he was the great man elected by the race, there arose the first title¹ of "Great Elect." And because he was lord of the fields,² there arose the second title of "Nobleman." And because he reconciles others by justice, there arose the third title of "King." Such was the origin of this circle of Nobles by an ancient primeval title; yea, and of those very people who, though different, are alike and not dissimilar, by virtue of justice, not by injustice. Justice, O Vāsetṭhā! is best for the human race in this world and the next.³

[End of the Genesis document common to the Pāli Aggañña-suttam and the Prākṛit Mahāvastu.]

¹ "Title" is *akkharam*, the regular word for a letter of the alphabet. Its literal meaning is "imperishable."

² There is here, and also in the words "reconcile" and "king," a punning etymology: "field" is *khetam*, and "nobleman" is *Khattiyo*.

³ The closing passage about justice (or religion) is not in the Mahāvastu, being part of the discussion about caste which is now resumed in the Pāli dialogue. In like manner there is frequent divergence of words and sentences between the two recensions, but agreement in the main story.

THE HIGHER CRITICISM.

AN INAUGURAL.

MATTHEW ARNOLD, in his *God and the Bible*, uses with telling effect a line from Homer: "Wide is the range of words! Words may make this way or that way!" Of nothing could that line be more true than of the phrase "Higher Criticism." To some it conveys the idea of sober, honest investigation conducted in reverent spirit with the purpose of reaching the truth; to others it is a synonym for high-sounding dogmatism, starting from preconceived notions and having for its object the overthrow of Christian faith; while to other some it is nothing but a scholarly "fad," which indeed has had a longer run than most fads but will soon have finished its course. Like most things good or bad, higher criticism has had its friends and its enemies; and in company with many a different cause, it has suffered from both. Its enemies often misunderstand its purpose, caricature its methods, and misstate its results; its friends, on the other hand, depend too implicitly on its deductions, exaggerate the reach of its conclusions, and refuse soberly to submit them to the thorough tests which are imperative.

It is the purpose of this paper to attempt to correct some current misrepresentations of its objects and methods, and to set forth its aim, its limitations, and its advantages.

It is an old saying that no antagonism is so violent as that engendered by the odium theologicum. This is quite natural. Matters which have to do with man's eternal relations arouse the strongest passions, give rise to the intensest convictions. And so

"wide is the range of words" that from the same phrase, through conflicting interpretations, conclusions the most opposite are reached.

I have spoken of "current misrepresentations" of the higher criticism. It should be no cause for surprise that these exist. Had that not been the case, if there had been no opposition to the application of the Bible of the methods of critical research, we should have a new thing in the annals of science and of the world. The growth of science, the attainment of results contrary to the conceived order of things, have always occasioned apprehension, have ever persuaded to charges and recriminations. Says Freeman :

"Nothing is more morally certain than . . . that every worthy movement, be it on behalf of learning or of higher objects than learning, on behalf of freedom or humanity or right in any shape, will have to go through much opposition, much ridicule, that it will have to live through many adverse votes, through many scornful articles in newspapers, but that if its promoters bear up stoutly, it will win in the end."

We find Christians in doubt and full of fear because of the half-truths expressed by those supposed to be opponents of the Christian faith. These half-truths are often the results of a one-sided, incomplete application of principles which are legitimate when *thoroughly* applied, and which when thoroughly applied complete the statements of half-truths and furnish material to fortify the wavering faith of the faint-hearted. A good example of this class of objections are the anachronisms in the Pentateuch which yield at once upon the basis of the documentary hypothesis. An examination of the grounds upon which faith rests is sometimes as necessary to confirm believers as it is at other times to induce belief.

A fair statement of one of the difficulties encountered is that by Dr. Aiken as follows :

"We cannot take many steps in exegesis without finding that before we are aware of it we were grappling with some of the most complex and representative problems of historical criticism—and of the (so-called) 'higher criticism': who said this, when, where, why? For the who, when, where, why, seriously affect our interpretation of that which is surely something more than a mere colorless formula of words."

In the kindred science of textual criticism the same experience was had.¶ "The first collections of various readings excited great alarm." The earliest critics of the text had to meet the accusation of infidelity. The conception that the traditional view of the verbal and literal accuracy of the Bible was the teaching of the Bible itself was in possession of the field—to question this was to assail the Bible itself. So the scholarly Geddes was called a "would-be corrector of the Holy Ghost." This citadel of traditionalism had to be carried under a hot and often not harmless fire of scorn, invective, and even excommunication. Within the eighth decade of the last century Dean Burgon led an almost virulent attack upon the cautious revisers of the New Testament for omitting unsanctioned passages from their Greek basis of the Revised Version, and he found an energetic follower on this side of the Atlantic.

These experiences, therefore, are not peculiar in investigations of a purely Biblical character. Rather, it should be said, the Bible is only just ceasing to be regarded the court of last resort, whose pronouncements, as formerly interpreted by the Church, on all subjects,—cosmology, astronomy, geology, geography, chronology, anthropology, sociology, and what not—decide what may be believed and known. It is on record, for instance, that "on Feb. 24, 1616, the consulting theologians of the Holy Office characterised the two propositions—that the sun is immovable in the centre of the world, and that the earth has a diurnal motion of rotation—the first as 'absurd in philosophy, and formally heretical, because expressly contrary to Holy Scripture,' and the second as 'open to the same censure in philosophy, and at least erroneous as to faith.'" Galileo himself, apropos of whose discoveries these deliverances had been made, was admonished "not to 'hold, teach, or defend' the condemned doctrine."

There are those living who remember the great outburst of religious horror which attended the projection into the world of Darwin's application of the theory of evolution to the origin of man. It seemed as if the whole Christian world was aroused, and a pestilence of satire and invective assailed the daring innovator. Within only a very few years have theologians—indeed, not yet all theo-

logians—become reconciled to that to which once the only possible reply was—*horribile dictu*; says Mr. Gladstone:

"In 1698 an ordinance was passed in the Long Parliament by which it was actually made an offence punishable by death to deny that which is manifestly only a question of historical inquiry—the authenticity of any one book contained in the Canon of Scripture."¹

If the prosecution of research has thus suffered in branches which had so remote a connection with theological science, we need hardly wonder that the application of scientific processes to the Bible itself has caused great burning of heart. It is necessary that we look for a few minutes at current representations, for only thus perhaps will it be seen that our investigation is not entirely a work of supererogation. The examples I adduce come down to within a few weeks of the present.

It is a curious fact that the misrepresentations of the higher criticism are most frequently found in the religious press, and particularly in those papers that are the "organs" of the denominations they represent. These misstatements consist most often of unfounded assumptions as to the purposes of the critics. Writers assume dishonesty and hostility to the word of God as the motive of these same critics, they discount the reverence and impugn the veracity of the students who employ this method of research.

A few examples only from many that might be adduced.—One editorial, treating of the sale of the English Bible, says that:

"Neither hard times, nor higher criticism, nor infidelity....has any effect upon the sale of the divine Scriptures."

A sandwich composed of an upper crust of hard times, a lower crust of infidelity, and a filling of higher criticism must indeed be an *indigesta moles*. But what can we say of either the intelligence or the honesty of the writer who threatens these three things as equally vicious or destructive. A reviewer in the *Lutheran Standard* informs us that:

"The so-called Higher Critics, it is well known, are constantly trying to

¹ W. E. Gladstone in debate on Dissenter's Chapel Bill, *Westm. Rev.*, Oct., 1889, p. 395.

shake the faith of the Christian by telling him that the books of the Bible were not written by the men whose names are usually given as the human authors."

That is, when a higher critic tells the people that say, the title—"The Epistle of Paul the Apostle to the Hebrews" is not found in the best manuscripts, and is, by the common consent of scholars, the addition in great part of an age long after the time of the composition of the book to which it is prefixed, and is moreover untrustworthy,—when a critic does this, stating a fact no scholar disputes, his object is "to shake the faith of the Christian."

The question at once arises, are we debarred from stating the truth?

Still another reviewer tells us that a certain book:

"....Is a most telling arraignment of the so-called higher criticism and an unmasking of its pretensions."

We hear from still a different source that one of the causes for the "Bible's being the best abused of books" is:

"....Its treatment by the higher critics, alleging (*sic*) that it is the offspring of incompetence and fraud."

One of the most influential papers of a large denomination assumes a slightly different tone and thus reassures its readers:

"That sort of criticism which, by a curious anomaly, goes by the name of the 'higher' criticism, is one of those scholarly 'fads' which have broken out at intervals ever since the revival of learning. But nobody need be seriously disturbed by it. It isn't going to destroy the Bible, nor lessen its authority, nor diminish the faith of the great body of Christian people in its divine authorship."

The examples I have given are what may be called impersonal. They are uttered behind the shield of the editorial "we." These are not the only instances of false estimates of the higher criticism. It often happens that men of eminence in the ranks of the Christian ministry lend their influence and name to the attack on this method of research. For example, one of the most prominent of Baptist clergymen was recently quoted as follows:

"Higher Criticism tends inevitably, whether its teachers realise the fact or not, to absolute rationalism and the discrediting of inspiration. If dates are erroneous, if scientific statements are wrong, if historical representations are misleading, if Jesus only fell in with popular views when he seemed to attribute the Pentateuch

to Moses, is it possible to believe that the Almighty had much to do with the preparation of such a book?"

It has doubtless not escaped notice that one object of the attack in the preceding citations is the name *higher* criticism. This makes it necessary to remove a possible prejudice before we proceed farther in the discussion. It is constantly assumed by those who should know better that the adjective *higher* demonstrates the arrogance of those who use it, who claim thereby an unwarranted importance and precedence for their method. It is unfortunate that this name has been given. But all scholars know and other people are fast learning that the adjective is used to distinguish this process from the *lower* or textual criticism which has for its province the examination of manuscripts and versions and for its object the settlement of the text, the attainment of the *ipsissima verba*—the true reading, the very letters of the original documents—and which is therefore preparatory to the application of the processes of the higher criticism.

Arguments against the method on the ground that it is called the *higher* criticism and that it involves an arrogation of superior authority to other methods of research are inspired either by ignorance or by deliberate intent to deceive or to instill prejudice. We trust that the time is at hand when arguments of this character shall entirely cease.

The meaning of all this disparagement can be nothing if it is not to show that the higher criticism as applied to the Bible is utterly and essentially faulty. It is time then that we ask—What is this method of study that is causing so much animosity in the Christian world? Is higher criticism "a synonym for rationalism" ("rationalism" in the sense of "irreverence"), and are "the higher critics all 'infidels'"? Is it impossible for a higher critic to be honest and reverent, and can his conclusions escape being destructive? In other words, is the principle in itself essentially vicious¹ and must the reverent student be debarred its use? Or is it, like

¹ Professor Sayce says in so many words: "The 'critical' method is thus essentially vicious."

most things on earth, something which may be used or abused, the employment of which may therefore be allowed under proper safeguards and with a true apprehension of its powers and limitations?

What is this higher criticism? I offer as a tentative definition the following: *A method* of investigation scientifically applied to any given document or documents for ascertainment of truth, particularly the truth as to "the authorship, construction, unity, time, and place of composition, literary form," "credibility as history, or authority as ethics or religion," the results of which investigation may be used either destructively or constructively of present opinions.

It will be noticed that into this definition of the higher criticism the word "Bible" does not enter. The omission was designed. For the method of research under discussion is not confined to the Bible, does not deal solely with religious documents. We are, indeed, led to the further remark that it is not even a modern science. It dates far back of the Christian era, when the objects of its application were the poems of Homer and the events of Grecian history. Dr. Thomas Arnold, in his edition of *Thucydides*, has informed us that that historian was fully aware of the mythical character of many of the accounts which in his time passed as history. In fact, the great master of Rugby makes it perfectly clear that the historian of the Peloponnesian war employed at least some of the tests of our method. We may make the further assertion that the application of the principles of historical criticism to the Scriptures of the Old Testament began in the days of the Christian Apologists.

Perhaps the best examples of the use of these principles are those most commonly given—the cases of the Letters of Phalaris, the Isidorian Decretals, and the Donation of Constantine.

The Letters of Phalaris are a series, one hundred and forty-eight in number, formerly supposed to have been written in the sixth century B. C. This date and the assumed authorship were commonly taken for granted as correct until Dr. Richard Bentley, in his controversy with Chas. Boyle, proved from the mention, in the Letters, of towns that did not exist till long after the time of Phalaris, from reference to tragedies that were not written till cen-

turies after, and from imitations of authors of a later age,—in other words, by internal evidence as compared with established facts, that these letters could not have been written till quite late in the Christian era.

This example, it will be noted, is taken from the history of purely secular literature.

The Donation of Constantine was the basis of the Papal claim to the temporal dominion of the West. The document embodying the claim contained the legend that Constantine was healed of leprosy in the waters of baptism by St. Silvester the Bishop of Rome. In gratitude the royal proselyte withdrew from Rome to found a new capital in the East and “resigned to the popes the perpetual sovereignty of Rome, Italy, and the West.” This document was first adduced during Charlemagne’s reign in the ninth century, and was written probably in the latter half of the preceding century. A single word betrayed the character of the composition and its origination at a time when the limits of empire had greatly shrunk, by an author who did not know what regions were within Constantine’s dominion.

The history of the Isidorian Decretals furnishes another example of the application of the principles of the higher criticism. These decretals consist of a series of edicts and letters supposed to have been written by the popes, some of them dating back to Clement of Rome. On them many of the claims of the Roman Catholic hierarchy in the Middle Ages were founded. The literary criticism of these documents conclusively showed that they were forged in the ninth century, and that therefore they lose their authority.

These examples and others that might be cited by the score demonstrate that this method of examining documents has not been invented for use merely in a religious direction and against or upon the Bible, but actually grew up in connection with other than religious literature. It is at the present day applied in every field of research involving the use of documents. Every discovery of a manuscript or document, whether secular or sacred, is the signal for employing the tests, for using the processes, of this science.

The rigor with which this method is applied in other than Bib-

lical fields is illustrated in the following extract from Lord Acton's inaugural lecture on taking the chair of History at Oxford :

"The critic is one who, when he lights on an interesting statement, begins by suspicion. He remains in suspense until he has subjected his authority to three operations. First, he asks whether he has read the passage as the author wrote it. For the transcriber and the editor and the official or officious censor on the top of the editor have played strange tricks and have much to answer for. And if they are not to blame it may turn out that the author wrote his book twice over, that you can discover the first jet, the progressive variations, things added, and things struck out.¹ Next is the question where the writer got his information. If from a previous writer, it can be ascertained, and the inquiry has to be repeated. If from unpublished papers, they must be traced; and when the fountain-head is reached, or the track disappears, the question of veracity arises. The responsible writer's character, his position, antecedents, and probable motives have to be examined into; and this is what, in a different and adapted sense of the word, may be called the higher criticism in comparison with the servile and almost mechanical work of pursuing statements to their root. For a historian has to be treated as a witness, and not believed until his sincerity is ascertained. The maxim that a man must be assumed to be honest until the contrary is proved *was not made for him*.

The main thing to learn is not the art of accumulating material, but the sublimer art of investigating it, of discerning truth from falsehood, and certainty from doubt. It is by solidity of criticism, more than by the plenitude of erudition, that the study of history strengthens, and straightens, and extends the mind."

All this, to some people, sounds like the sheerest rationalism. Of its applicability to ordinary history no one feels a doubt, but to the Bible—ah, that is a different thing! The awful irreverence of it in that connection makes the blood run cold! It may therefore be a surprise to know that the late Dr. Aiken speaks as follows from the very citadel of conservatism in America :

"There is a measure of truth in what Renan says with a frankness and force that are almost brutal: 'Criticism knows no reverence; it judges gods and men. For it, there is neither prestige nor mystery; it breaks all charms; it tears aside all veils. This irreverent power, turning upon everything a firm and scrutinising look, is by its very essence guilty of treason towards God and man.'"

And yet, the question at once confronts us, can the application of these principles be excluded from the Bible? Is it possible in

¹ *The very case with the Acts of the Apostles as represented in two sets of manuscripts*, according to some of the foremost critics of our times.

the first place, is it desirable in the second place, that the Bible should be exempted? To which question the answer comes from a certain school,—“This exemption is imperative, for *the Bible is different from other books; the Bible is the word of God.*” To question or cross-examine the Bible is “consciously to test the credibility of the Holy Ghost, to dispute the veracity of God Himself,” an awful sin, a fearful irreverence!

The answers to this objection must be postponed till we come to the consideration of the *necessity for the employment of critical processes in the study of the Bible*. All I am concerned to show now is that this method of study is not an engine of war expressly invented to batter down the walls of Christian faith and to assault the fortress of Biblical truth. The genesis of the science lies far back of the Christian era, its scope is as extensive as literature itself, while its principal field of practice has been the domain of general history.

The exercise of its principles in *Biblical* study is indeed for the most part modern; but that was as inevitable as the march of science, as necessary as the succession of the seasons. It is not anti-Biblical any more than astronomy or geology is anti-Biblical. If it be said that this is drawing the long bow, my reply is that what I have claimed in my last statement is supported by the late veteran Dr. Wm. Henry Green, the late leader of the conservative hosts in this country.

While we have defined positively that which is the subject of our discussion, it may be well to borrow the substance of an article by Professor Zenos that we may see the negative side of our theme. For while many do not know what the higher criticism really is, they imagine it to be several things it is not. A few of these shall be noted.

1. “It is not the criticism of the literary characteristics of the Bible.” That is to say, while it observes the difference in style displayed in the separate books of the Bible or even in the different parts of the same book, while it takes cognisance of a greater or less degree of grammatical or syntactic or lexicographic purity, of

the agreement or disagreement with models that are assumed as classic, it does not do this *for the style itself*.

When it marks a peculiarity in style, a difference in vocabulary, a habitual felicity in expression, it does so because they are data for use in the solution of a problem.

2. "It is not a philosophical principle or mode of viewing the Bible and its contents." To illustrate: the Tübingen school used as their guide in Biblical criticism the Hegelian principle of thesis, antithesis, and synthesis. They read all the New Testament Scriptures in the light of this philosophical lantern. That was not higher criticism! Yet the results of just such work as theirs is continually set forth as the fruitage of higher criticism, as higher criticism itself. We are therefore compelled to make the distinction and emphasise it that a method like the Tübingen school's is not the scientific procedure of the higher criticism, nor is it the higher criticism itself.

3. "It is not a theory of inspiration." Perhaps the most common error concerning our method is the one negated by the proposition just enunciated. The results given by the exercise of the critical processes belonging to our method may lead to or suggest a theory of inspiration. But that theory when formulated is not to be identified with the critical procedure which gave the data for the formula.

4. "It is not a set of views as to the books of the Bible." The higher criticism bears the same relation to a set of views concerning the Bible as the tools and machinery in a saw-mill, a stone-quarry, and a blacksmith-shop to a house. All these shape the material of which the house is built, but they are not the house. The comparison may be carried still farther. The materials turned out by the machinery may be perfectly sound and well worked. Yet the house constructed from them may be a monstrosity, neither substantial, convenient, nor sightly, all because the material has not been employed in fit proportions and in a suitable manner.

The confusion hinted at in the statement "It is not a set of views as to the Bible" has led to an identification of all sorts of vagaries, of real attacks upon the Bible, of infidelity itself, with the

higher criticism. Any mad hypothesis, any untenable theory, is charged at once to the higher critic. "The critics have a *mania*," says one paper, "for forming hypotheses." These same critics are not only infidels, they are madmen. In consequence, the caveat at the head of this section—"It is not a set of views of....the Bible" is one most necessary to bear in mind.

We are therefore thrown back to the first clause of one definition which contains the essence of it: "*a method of investigation scientifically applied.*" This is what it is—a method. It is not denunciation of the Bible, not an engine of war erected to undermine or batter down its truths, not a philosophical principle or prepossession which forbids a man to come out of the woods at a place different from that where he entered, not a theory of inspiration (even though the result of its processes be to make certain theories of inspiration untenable), not even a set of views about the Bible. It is just "*a method of investigation scientifically applied.*" Scientifically, not erratically, not blindly, not capriciously, not even inflexibly without regard to circumstance and fitness. And this should lead us to see at once how misleading are the statements that the higher critics are "taking away the Bible," are "robbing Christians of their guide." To take away is not the function of the *higher* criticism. If any branch of Biblical study takes away aught from the Word of God, it is the *lower* or Textual criticism. That with which we are concerned is simply a method of investigation scientifically applied to the Bible *as* it is, to discover *what* it is.

This brings us to the next point of importance—the *material* with which *Biblical* higher criticism deals. We have here to bring into consideration a fact which is obscured in the common mind, no doubt largely through the influence of the title of our book—"The Bible." The truth thus obscured is that the Bible is a collection or library of books. The name "Bible" carries with it as a noun in the singular a truth the importance of which should by no means be minimised. But in this connection we are compelled to notice not the unity so much as the diversity which appears. The Bible is not one book as we use the term nowadays, in the sense of being the production of a single individual. Even if it be referred on the

very highest and most mechanical theory of inspiration to God as the ultimate author, the fact remains that its parts were given at different times during a period of over a thousand years. Upon the basis of the traditional authorship of its component parts, it reflects the conditions and modes of thought and of expression of widely separated ages.

It is a question at least open to debate whether this notion of the unity of the Bible is not extra-Biblical if not indeed anti-Biblical. Bp. Westcott has noted that in the New Testament the Old is called "The Law, Prophets, and Psalms," "The Law and the Prophets," "The Writings," "The Scriptures," etc.,—names which recognise the complexity of the book. When the singular "The Scripture" is used, a special passage or book is meant and not the whole collection. It is doubtful whether a singular term is found in the New Testament to express the collective of all the books of the Old Testament. 2 Cor. iii. 14 has been applied in this association, but v. 6 of the same chapter makes it more than doubtful whether the phrase "Old Testament" refers to what we mean when we use the expression. By the beginning of the third century the terms "Old Testament" and "New Testament" were probably in common use. "The first collective title" appears "in Jerome in the fourth century 'The Divine Library.'" The term "The Books" came to be used by Greek writers, and "in the thirteenth century," says Bp. Westcott, "by a happy solecism, the neuter plural came to be regarded as a feminine singular, and 'The Books' became by common consent 'The Book' (Biblia), our 'Bible.'" So it has come about that the composite character of the Bible, as made up of many books, has been largely forgotten. To the clergy and to scholars, of course, the truth I state is trite, but in the mind of the people the common thought is not *e pluribus*, but *unum*.

For the higher criticism then the Bible is a library, a collection of books. Consequently the problem of the origin of the Bible becomes a very complex one. The inquiry cannot lead us by a single step to a definite conclusion enunciated in a simple sentence. The same questions must be asked respecting every one of its sixty-six component parts. And after the comparatively easy problems

of the origin and character and meaning and historical situation of each of these parts has been worked out, there remains the infinitely more delicate task of combining all these results into one conception, which shall do all justice and no injustice to the library so grandly opened with the stately words "In the beginning God created the Heavens and the Earth" and so propitiously closed with the benediction "The grace of the Lord Jesus be with the saints. Amen."

Were the Bible only divine, were there no human elements interwoven into its fabric, many of the tasks set for the higher criticism would not exist. To change the figure, "We have this treasure in earthen vessels." Granting the divine origin of Scripture, this Scripture came through human channels. It reflects the influence of the age which produced it, of the civilisation in which it arose, the circumstances of the people to whom it came and of the place where it was written, it mirrors the soul of the man who indited it. Each of these can but have left some impress on the product. The vocabulary, the style, the philosophy and theology, the matter itself, each has earmarks of its origin. The writer and his environment inevitably reappear in his work—necessarily so as he writes in entire conformity with the laws of his being and without attempt at imposture.

It follows therefore that to the trained student a literature will tell its own story of its origin, time of writing and purpose. Somewhat as the expert in English literature can tell almost at a glance the age to which a production belongs, locating it in the Early English, Middle English, Elizabethan, or some later period; so the expert Hebraist or Græcist detects in a given document signs of the golden age of early Hebrew or Greek, or signs of a decadence. A book which should tell of the trolley car or the ironclad, or should know the massacre of St. Bartholomew or the Monroe doctrine, could not be placed in the Middle Ages. Similarly a document which speaks of the subjection of the Canaanites from the standpoint of accomplished fact, which knows of kings over Israel, cannot be the product of a Moses who lived centuries before.

The higher criticism, let me repeat, deals primarily with the *components* of the Bible. It comes to them with certain questions. It interrogates the documents themselves. It desires to know the testimony of the books to themselves and to each other. To this end it cross-examines them. Its questions are directed as suggested in the definition we give. It makes such inquiries as: Is the book a unit or is it composite? the work of one author, of several, or of a school of writers? Is it as the author left it or has it been edited? Does the book claim or appear to claim authorship for itself? Is this claim consistent with the contents? Does the subject-matter mirror the known characteristics of the assumed author and his age? Does it, viewed from that standpoint, contain anachronisms, and if so, how are they to be accounted for? What is its literary form? Is it prose or poetry, drama or song, literal history, didactic allegory, or philosophical investigation? If history, what are its sources? How near was the author to them and how has he used them? Is ecclesiastical or other bias discoverable? From what standpoint did the author view his material? What is its philosophical background? Do its teachings accord with well-ascertained facts and is it therefore authoritative?

It will be seen that these questions simply expand the compound query: What is the origin, what the literary form, and what the historicity and credibility and therefore authority of the book?

In all this the higher criticism does not come with antagonism to any known or accepted theories. Says Zenos:

"Its relation to the old and [the] new views respectively is one of indifference. It may result in the confirmation of the old as well as [*sic*] in the substitution of the new for the old."

The common supposition is that our method is fundamentally opposed to tradition. This is a grave mistake. The higher criticism acknowledges the presumption in favor of that which exists until reasons appear against such a presumption. It does not necessarily begin by doubting tradition unless the tradition is palpably indefensible.

August Böckh, one of the most noted of German philologists, is quoted with approval by the late Dr. Aiken of Princeton, although

the original author was speaking of classical work and Dr. Aiken of Biblical criticism :

"We should be in the negative criticism more circumspect than the ancients. We must always start with the tradition, and try whether the unsuspected positive testimonies for the origin of a written work do not admit of being confirmed and completed by 'combinatory' criticism.

"Where the judgment is in any degree uncertain, the principle holds: *any book whatsoever is presumed genuine until the contrary is proved.*"

True, Dr. Aiken shows that "criticism must be suspicious rather than indolently credulous. It tests all traditions. It is in part negative in its first aim and its earliest working."

And yet we are justified in maintaining that it may accept the correctness of accepted views *as a working hypothesis* until facts antagonistic to those views transpire. But when once facts which discredit the received opinions are clearly established, regard for that which is in error, be the error hoary with antiquity, is no longer manifested and the discredited theory is repudiated. If then in answer to the searching questions of criticism results opposed to those given by tradition appear, and if repeated attempts to reconcile the newer results of research with the commonly accepted views fail, the blame must rest not with the newly applied method of study but with the older tradition, the deposit of an earlier, a less critical, a less completely equipped period of scholarship.

It seems a fit place here to insert a few words in answer to the question: "Who are higher critics?" They are usually supposed to be a few scholars, mostly professors in German universities or teachers in other than German schools who have adopted the views of the Germans, and whose claim to distinction is that they hold views subversive of traditional theories concerning the Bible. But the term is far more inclusive than this would allow.

The pastor who instructs his people about the plagues of drought and locusts which form the background of Joel's prophecy and so gives them the historical occasion for that prophecy, is a higher critic and makes his people such as far as they follow him. The Sunday School teacher who calls the attention of his scholars to the burning of the roll of Jeremiah and the issuing of a second

edition of the prophecies as the narrative relates in Jer. xxxvi., is a higher critic and those scholars are *quoad hoc* also critics. The student of the Bible, who notes the characteristics which the author of the third gospel claims for his production in the preface, and who tests them by the light of facts ascertained from other sources, has joined the great army of critics. The teacher of history, who compares with the help of a harmony or without it the accounts of the four gospels to discover what their words authorise him to assert concerning Jesus of Nazareth, is a higher critic. The cursory reader of the last eight verses of Deuteronomy, which give the account of the death of Moses, and which tell of the absence of his equal up to some indefinite time,—the reader of those verses who says to himself, "Moses could not have written this," is putting into practice the methods of a higher critic. In fact, as soon as a person asks of a Biblical passage, "What does this mean, and why?" he has entered the ranks of these bold bad men!

Higher criticism is not at all a question of degree, it is wholly a matter of fact. That our statement in this paragraph is correct, is shown by the following from Dr. Chalmers as quoted by the late Dr. Aiken who, be it remembered, was of Princeton Seminary, neither of whom will be charged with neology. Dr. Chalmers' words are as follows:

"Without (this criticism) there could have been no interpretation at all of the sacred writings, and so no access to the mind and will of God as expressed by a revelation from Heaven."

Artists who picture the sphinx are wont to show on it some object, the approximate height of which is known, in order that the magnitude of that colossal monument may appear. So the study of a document is almost always relative to some other document or set of documents or array of facts. Some established standard by which measurements may be governed, some test-stone, comparison with which will afford ground for a conclusion, are prime necessities. Hence the higher criticism seeks criteria by which to guide its procedure and check its results, and it finds them in the assured conclusions of every department of study. Geography, history,

chronology, archæology, philology, hermeneutics, philosophy,—in fact, all the sciences are its handmaidens. The stock in trade of the critic is not, as so often declared, subjective hypothesis and conjectural theory. The spade of the archæologist, the reading glass of the assyriologist, the basket of the fellah of the Nile, furnish him tests. He must ever bear in mind that the theodolite of the surveyor and the sextant of the explorer of the tels of Babylonia are brought to bear on his conclusions. His results must tally with the findings of the philologist. His interpretations are scrutinised by the trained exegete.

For ease of comprehension we may divide the criteria used by our system of investigation as applied to the Bible into three types or classes:

1. Those furnished by the study of a book itself, or to put it in another way, those purely internal.
2. Those which are internal to the Bible, the data given by comparison of the book under study with other books of the Bible.
3. Those afforded by the assured conclusions in the more general branches of knowledge. These are—known facts
 1. In History, particularly as given by Archæology in all its branches: Ancient Geography, Ethnology, Assyriology, Egyptology; indeed the science of Antiquities in its widest and most comprehensive domain as well as in its most highly specialised departments. Known facts
 2. In Comparative Philology,
 3. In Comparative Religion,
 4. In Hermeneutics, and
 5. In History of Theology or of Doctrine and of Philosophy.

It must ever be kept in mind that it is the certified results in these different domains of knowledge that the higher criticism applies to the solution of the problems it attacks.

How does it use them? Let me take them in order and illustrate as best I can.

First, *the study of a book in and by itself*. In this criticism is almost entirely limited to a canvas of the literary qualities of diction, style, and rhetorical form. Considering the last first, we no-

tice that the bearing, value, and use of an investigation of rhetorical form is to give a clue to the interpretation. We do not construe the statements of a poetical book as we do those of a prose narrative, an apologue will not bear the interpretation we give to a chronicle. Thus a contribution to the solution of the problem of Jonah was made when the suggestion first came that it is parable and not history. The fact, now firmly maintained, that the two accounts of the creation, the narrative of the fall, and that of the flood are poetry, is a help to the interpretation of those passages, though not the entire solution of the difficulties. What is the form of Ezekiel xl-xlvi? Is it a programme, or is it the first draft ever made of a Utopia, an ideal never to be realised? To the solution of these problems the higher criticism addresses itself. It asks: prose or poetry, fiction or history? It investigates the language used, whether figurative or literal; the method of arrangement, rhythmical or broken; the mood of discourse, imperative or persuasive or narrative. In this way it determines the character of the hermeneutic to be applied.

It is true, there is in all this an implicit reference to external standards. This simply raises the question whether there is any criterion that is purely internal.

Two other criteria, the diction and the style, are employed to determine the unity or integrity of a document.

It is conceivable that a book should be a composite, the result of uniting the productions of two or more writers. The parts would be likely to present a differing vocabulary and divergent styles. The phenomenon here outlined is presented prominently in at least three parts of the Old Testament, in the Pentateuch, in Isaiah, and in Zechariah, as well as in the New Testament in the Synoptic Gospels. In two of these, linguistic data play a most important part. In the Pentateuch this was the feature that led to the investigations which have continued for over a century and a half, and which have conducted with ever-increasing certainty and even inevitably to what is to-day a postulate in the larger part of the scholarly world,—the composite character of the Pentateuch and the combination of its parts into a whole in a period long subse-

quent to Moses. In the book of Isaiah it is an argument of no little force in supporting conclusions reached from other data.

I must ask indulgence if I dwell on this part of our subject longer than I otherwise would, for it is a feature of the higher criticism which greatly provokes the wrath of the enemy. That the constituent parts of a document can be distinguished almost to a word, is by one scholar pronounced a "preposterous assumption," and that in the face of the accomplishment of the task in the bulk of the book of Genesis and of the growing, almost complete consensus of authorities in the other parts of the Pentateuch. The scholar just referred to makes an attempt to prejudge the possibility by stating that criticism of this character "can be well grounded only when it has a greater amount of literature than is accessible in Hebrew." I could show that an English document of composite make-up far less extensive than the book of Genesis has been analysed into its components in the face of those who must have denied the analysis if they could, and by a man who makes no pretence to expert scholarship in English.

It is a well-known fact that an author becomes habituated to a more or less limited vocabulary, acquires a habit of using certain methods of expression, may come to exhibit well-defined and easily recognisable peculiarities. The classical scholar is in no danger of confounding the style of Cæsar with that of Sallust, or Livy's with that of Tacitus. "The style is the man" is a literary axiom. It is true in any developed language, particularly true of the Hebrew. This arises from a peculiarity which the Hebrew shares with probably no other tongue, its wealth of synonyms. Think of a "language that has 55 words for 'destroy,' 60 for 'break,' and 74 for 'take'!" A Hebrew writer cannot run the gamut of expression of which the speech is capable. His vocabulary becomes a part of himself, his choice of words an idiosyncrasy which stamps his productions. Consequently, a Hebrew writer's peculiarities are often most pronounced.

Hence comes the following method of procedure: Some striking peculiarity manifests itself in different parts of a document under examination (in the case of the Pentateuch this was the use of

the divine names Jehovah and Elohim). These parts, differentiated tentatively on the basis of the difference that has appeared, may or may not reveal upon examination other dictional individualities. If such further peculiar phrasical characteristics do appear, more minute and careful investigation is suggested, till the literary character of the parts is thoroughly set forth. This takes in the use of single words, of phrases or combinations of words, the employment of literal or figurative language, and discrimination of the *kinds* of figures used, thus advancing to the higher qualities of rhetorical style. If exhaustive scrutiny along these lines develops in each of the supposed components literary traits peculiar to itself, a *prima facie* case is made out; but the verdict is not yet rendered, an advance has to be made to other tests which it will be our business to describe a little later.

I shall make but two remarks here. (1) The process is thoroughly scientific. But one thing is assumed to start with, and that is a principle well known in literature, "sufficiently pronounced difference in style betokens difference of authorship." And the security of this method is becoming greater as the advance of learning makes more exact and discriminating knowledge of the languages. As Professor Sayce remarks: "A philological fact once ascertained is a fact that cannot be overturned or explained away." (2) This process is only preliminary. The case for the critics does not rest upon its results; more crucial and advanced tests are applied. The unity or diversity of the historical point of view, the theology of the assumed parts, the philosophy underlying the conceptions, the ethnographical and geographical indications are all taken into account. If the outcome as determined by these tests does not support the theory suggested by the exclusively literary or linguistic method, the discrepancy indicates a fault in either the reasoning or the application of the tests. It is in the convergence of the different lines of testimony, in the consensus of results reached by the various critical steps, that the great strength of the higher criticism lies.

We come now to the second class of tests spoken of: comparison of one or more books with others in the Bible.

These are used in two ways and for two purposes. The first brings to light the periods of a language and affinities in time. The second exhibits use of one book by another and therefore relative priority of the one to the other. The first is used with fine effect in Pentateuchal analysis, where it is shown that one of the documents, that of the priestly writer—presumed on other than linguistic grounds to be the latest—has many affinities with the late writers Jeremiah, Ezekiel, the latter half of Isaiah, the Chronicler, Daniel, and late Psalms. It therefore supports conclusions reached from the consideration of other data.

The second argument, that from citation, is one which, by itself, must be used with great caution, and its results are not always indisputable. For, when an identical passage appears in two books, the question has to be asked, which is the original? Even this does not exhaust the possibilities, for both may have borrowed from a third which has been lost. Thus that Is. ii. and Mic. iv. embody a short prophecy by a third writer is more probable than that either has borrowed from the other. On the other hand, the question whether Jude has borrowed from 2 Peter or Peter from Jude is much debated in spite of the fact that Jude professes to quote "the Apostles of our Lord Jesus." If, however, it can be established that one author quotes another, the relative priority of the one is established, and an approach is made to the solution of the problem of the origin of the writings in question. Says Sayce:

[While] "literary analysis" [of a book] "is independent of the facts of history so called, . . . the higher critic is also required to determine the authenticity of the historical narratives which the documents contain . . . He must compare their statements with those of other ancient records, and ascertain how far they are in accord with the testimony derived from elsewhere." (Sayce, H. C. etc., p. 8.)

Hence "he must seek the aid of archæology, and test the results at which he may arrive by the testimony of the ancient monuments" and remains. The knowledge gained from these other sources enables him often to locate the origin in time and place of the document he is examining.

The date before which a book could not have been written, is often determinable from the book itself by the mention of an event,

the time of which, either relative or absolute, is known. Thus we should know the earliest date to which we could refer a passage speaking of the opening of the Kiel canal. Similarly, a passage that informs us that "there arose not a prophet *since in Israel* like unto Moses," could not have been written by Moses, and a statement to the effect that "these are the kings of Edom before there dwelt any king over the Children of Israel," is hardly to be placed before the establishment of the kingdom under Saul. In like manner Professor Sayce shows that Gen. x., which mentions Gomer and Magog, could not have arisen earlier than Ezekiel; for the Assyrian inscriptions prove that not till the seventh century "did Gomer or the Kimmerians emerge from their primitive homes and come within the geographical horizon of the civilised nations of Western Asia."

In connection with such passages as these, there is sometimes possible the explanation of interpolation or of re-editing in later times. If evidence of this exists, it may sufficiently account for the facts. But the difficulty increases not in direct but in geometrical ratio with the number of interpolations that are required to explain the anachronisms. If *evidence* of interpolation is lacking and the explanation by interpolation is a theory propounded to get rid of a difficulty in a theory, the validity of the explanation is seriously in question.

Events whose time and order is established, are useful not only in determining the date of a document, they are employed also in fixing the credibility and authority of the same.

Thus, Belshazzar is represented in the Book of Daniel as sole king of Babylon, as son of Nebuchadnezzar, and as succeeded by Darius the Mede. But it is regarded as proved by Assyriologists that Belshazzar was never king, that he was the son of Nabonidus who was a usurper not related to Nebuchadnezzar, and that Nabonidus was succeeded by Cyrus.

These and other facts are regarded as invalidating the Book of Daniel as history, and led even the apologetic Sayce to conclude that "it is with good reason that the Book of Daniel has been excluded from the historical books of the Old Testament in the Jew-

ish Canon and classed along with the Hagiographa." As Professor Driver, building upon the conclusions of Professor Sayce, says:

"The aim of the author was not to write history, in the proper sense of the word, but to construct upon a historical basis, though regardless of the facts as they actually occurred, edifying religious narratives. 'This is the kind of history which the Jewish mind in the age of the Talmud loved to adapt to moral and religious purposes. This kind of history thus becomes as it were a parable, and under the name of Haggadah serves to illustrate the teaching of the Law.'"

In what precedes a hint has been given of the value of archæology in its various branches. Considerable use has been made of the subdivision of Assyriology. The vast libraries already unearthed, of which only a tithe has been read, and which await the application of those expert in the cuneiform writings, are continually furnishing data with which on the one hand we prove the general trustworthiness of the Old Testament history; or on the other compel the modification of conclusions respecting books and parts of books.

Some acknowledgement is due also to the services rendered by the science of ethnology. Professor Sayce has contributed to our knowledge in this respect no little amount, and has taught us to apply it to the elucidation of Scripture and the settlement of problems that arise there. Thus, on the basis of the mention of the tribes mentioned in Gen. x., as compared with facts gleaned from other sources, he has made clear that the "chart of the Pentateuch presents us with a picture of the Jewish world as it existed in the seventh century B.C." The citation already made from this scholar, covering the rise of the Gomer of Genesis and the connection therewith of the Gog and Magog of Ezekiel, is additional evidence of the value of ethnological tests.

No less useful and sometimes equally convincing are the premises furnished by philology. To quote Professor Sayce once more:

"A philological fact once ascertained is a fact which cannot be overturned or explained away."

Thus, the doubts raised concerning the historicity of the Book of Daniel are increased, when we find (1) that the word "Chaldæans" as used in that book dates from a period after the fall of the Baby.

lonian empire; (2) that Persian words occur which certainly belong to a period later than the rise of the Persian empire; and (3) Greek words of such a type that they could not have been found in a Hebrew work till long "after the dissemination of Greek influences in Asia through the conquests of Alexander the Great."

But philological evidence is not all of this decisive character. The English scholar is aware that in the rural districts of both England and America he may find in current use forms which are survivals from the times of Chaucer. Literature composed on the border in early times may show the characteristics of a later time, when one language has superseded another, as Aramaic supplanted the Hebrew. Provincialisms may lead to a miscalculation of the age of a document unless the critic is on his guard. A fine example of the indecisiveness of this type of philological testimony is presented by the Book of Job. This book has been placed, on the testimony its language affords, all the way from the times of Moses to the times of the Maccabees. And, let me say in passing, some historic data possess this character of indefiniteness. Thus the stone age is not a definite period the limits of which can be fixed for a certain century for all parts of the world. The age of flint continued for the North American Indians centuries after the introduction of fire-arms in Europe. Similarly, the patriarchal period has not yet passed by, for on the steppes of Northern Asia and in the deserts of Arabia that form of life still exists. Hence the historical evidence of the Book of Job is in this respect indecisive. The patriarchal mode of life reflected in the surroundings of the "most patient of men" has been taken to mirror the times of Moses or earlier. But place that sufferer on the edge of the desert or in one of its oases, and the conditions given might exist in the Roman period.

This brings us to another criterion of value—the signs of philosophical and theological development. Thus, the age of the book to which we have been referring is probably to be placed by its stage of thought. The "age of unquestioning faith has passed.... the laws of providence [even].... are made the subject of doubt." There is "a struggle between a traditional creed which taught that

all suffering was a penalty for sin, all prosperity a reward for goodness, and the spectacle of undeserved suffering afforded by more complex social conditions." (Driver, p. 406.)

A like problem arises in connection with the Epistle to the Colossians, the Pastoral Epistles, and the Fourth Gospel. What was the form of gnosticism which each of these combated, and when did it arise? Is the origin of this heresy *in its Christian form* to be put back into the fifth decade of the first Christian century of our era, or must it be deferred? If it did not rise till the second century, those books are second century publications.

Similarly in the Old Testament the question arises concerning the origin of the doctrine of the resurrection and of angels. Can this be placed behind the contact of the mass of the Jewish people with Babylonian and Persian forms of belief? These problems take us back into the history of doctrine and of theology. In fact they lead us to the last set of tests which we may mention—those furnished by the still youthful science of Comparative Religion. We are here brought face to face with the most determined opposition to the methods of historical study on the part of the traditionalists. The emphasis they lay upon the uniqueness of Judaism and of Christianity is most firm. Comparison with other religions is scouted. Between these two religions and the ethnic beliefs there is a gulf fixed which no bridge may span.

And yet, light is thrown by the study of ethnic religions upon Christianity and its predecessor. And as a consequence, just as students may put darkening blinds in the windows of their own studies, but cannot enclose in a darkened room the glorious sun, nor prevent his shining upon the rest of the world; so they cannot hinder the light of research from throwing into high relief the facts resulting from such comparison. By using this newly-risen branch of science, the thesis that Hebrew and Christian records are composite is made at least hypothetically tenable by the discovery of this character in Veda and Shashtra and Avesta. The miraculous conception is no exclusive possession of Christianity. It appears in the religions of Buddha, Brahma, and Zoroaster.

In like fashion, the story of Moses is not unexampled. The

essentials of the fabric, "his exposure in the basket of rushes, his rescue and subsequent greatness" are told of Sargon who lived (say) 3800 B. C., and "of other great personages in the ancient world." The source of "The Early Narratives of Genesis" is no longer hidden, but exists uncovered in Babylonian libraries. The ten tables of Genesis are put alongside similar tens in Egypt, Chaldæa, Armenia, and Persia. And the background of the New Testament, the philosophy and theology of the times as revealed in the literature of Greece, Palestine, and Egypt, give comparative data of no little worth.

If we have thus cursorily glanced at the touchstones called into use by Biblical criticism, we have yet to see how they are to be employed. Certain qualifications must exist in the critic. The telescope pointed at a star is ready to tell of that star's glory to any observer. But there is a vast difference in what the instrument says to the ordinary beholder and to the trained astronomer.

A prime requisite in the Biblical critic is a profound common sense fortified by a varied and exact knowledge. And we wish to specify as belonging here and a part of this common sense what is known as the "historic imagination." The critic may not judge the workings of the Oriental mind by the psychological experiences of the Occidental; the patient pursuit of a train of reasoning by the Aryan differs much from the Semite's intuitional leap to a conclusion and his externalising of a subjective affection. This critic may not read into the life of three thousand years ago the experiences of the present. While his inductions must be no less complete and no less carefully followed out than those of the investigator of what are called natural phenomena, while he must balance with most exact justice external testimony and internal evidence, he must ever remember that the facts he is investigating, the literature he studies, are those of a different race, the fruitage of another civilisation, the outcome of a dissimilar environment. Before he can correctly estimate their value and apply his tests, he must have projected himself into the situation of the writers, have lived their life, thought their thoughts, experienced their emotions, felt their aspirations, breathed their hopes, sympathised with their dis-

appointments; he must have danced to their pipings and have wept to the accompaniment of their mourning.

A second requisite in the critic is divorcement from theological or other presuppositions. The chances are many to one that if a scholar enters upon the study of the Bible with a theory to support, he will find plenty of props in its declarations. "Wide is the range of words; words may make this way or that way." If Arminianism and Calvinism, Episcopacy and Congregationalism, Quakerism and lusty rousing Methodism can each find its support in the "written Word," why despair of support for any theory? In how many ways during the last fifty years has Gen. i. been twisted by apologists to fit the varying forms of philosophic cosmogonies? "Words may make this way or that way."

In demanding freedom from bias in the critic, we acknowledge to running counter to all prejudice. Perhaps we are asking something impossible of accomplishment. But we "hitch our wagon to a star." And this much must be admitted, that no basis short of this will give us the ultimate truth.

This demand does not mean that the mind shall come a blank to the study of the Bible. It does not mean, for example, that the investigator shall at the outset cast aside all tradition as fundamentally useless. Nor does it ask that he come with the belief that no results but those tradition gives can be truthful. What is meant is that he shall be thoroughly candid, entirely open to the force of all evidence. Perhaps one presupposition may be allowed, viz., that "all evidence has some value direct or indirect." The "supernatural" in literature is not to be ruled out nor assumed. The word must first be defined. The miraculous is a matter of evidence. Criticism can progress only on solid ground. It requires an adamant standing-place. It has neither wings nor fins nor skates. It neither cleaves the atmosphere, nor cuts the liquid waste, nor skims over thin ice. Its movements are slow, not always graceful. Like the elephant, it tests the bridge by which it crosses a problem. And as with that huge beast, successfully to oppose it requires keenest weapon sped by unerring hand. The ideal criticism will have not even the vulnerable heel of Achilles.

The third and last requisite of a critic that I shall mention is that he regard truth alone as an end. To repeat the quotation used by the venerable Dr. Green of Princeton :

"Let the truth be told though the heavens fall."

The use of criticism to support a creed is a perversion of its functions. A writer in the *Quarterly Review* (Oct., 1895) has the following :

"The Church historian [and equally the higher critic,—indeed the Church historian is above all a higher critic] must not ask what relation the early Christian books bear to the thirty-nine articles or the decrees of the Council of Trent or the Shorter Catechism or to the Andover Creed ; he must not ask a great many questions which were not in the writers' minds, but he must ask what were the problems of their day, and how did they answer them.

"The New Testament does not for him contain a collection of texts proving or not proving certain scholastic theses, but a body of documents moulded by the personality of their writers, bearing witness to different aspects of a common belief held in different ways by different temperaments."

It may be that the conclusions fortify a dogmatic position. That is one thing. But to set out with that end in view is not criticism.

On the other hand, advice is sometimes given which is as wrong in principle as dogmatic search for proof-texts :

"A man must pursue his method no matter where it leads him."

It may often happen that a course of argumentation points to a palpable absurdity. He would rightly be reckoned a fool who should persist in that course. The very tendencies of a line of argument may, as judged by current belief, indicate fallacy in inference or falsity in premise. When such results appear, it is time to scan the whole process that seems to lead astray. Each step must undergo scrutiny. The premises must be scanned for material error, the deductive operations carefully examined ; if then the result is still contrary to received opinion, that opinion must be challenged whatever the cost.

To illustrate by a crucial test. The majority of Christians hold the Bible to be, not to contain, the Word of God. It is therefore inerrant. That is current opinion. Doubtless the majority of Chris-

tians would be shocked at the thought of a mistake in God's word. This popular belief is borne out by syllogistic reasoning thus: The Bible is from God; Whatever is from God is perfect; Ergo, the Bible is perfect. Now whatever contains a mistake is imperfect; the Bible is not imperfect; therefore the Bible does not contain a mistake.

So much for current opinion and deductive reasoning!

Let us study a little of the reign of Jehoshaphat as given by the Chronicler. 2 Chr. xvii. 6 informs us that the king "took away the high places and the Asherim out of Judah." But according to 2 Chr. xx. 33 "the high places were not taken away," and 1 King xxii. 43 agrees with this. Here is an evident contradiction, and so far as has yet been discovered there is no way of reconciliation. What shall we do? Luther could take off his hat and acknowledge that the Holy Spirit was wiser than he. Will that satisfy us? Or shall we exclude the Chronicler from the Canon? But that is impossible! What then? There is but one thing to do—we must face the fact without subterfuge; current opinion is wrong, the Bible is not inerrant in matters of history. If our opponents insist, as does an essayist in one of our great denominations, "No other revelation than an inerrant one is worthy the confidence of the race," if they force upon us the dilemma—"Either an errorless Bible or none" and allow us no other horn, the answer of candor and of scholarship must be—"You persist in this to your own confusion." And no less than Professor Sayce has said "in the end the opinion of the scholars will always prevail." Here then as elsewhere the old maxim must hold: "Be sure, be *sure* you're right, then *go ahead*." No matter what the consequence, you *must* go ahead!

With such a method of study and with students so qualified, what are likely to be the results? In stating these it is not my intention to go into minutiae, to detail the consequences which affect individual books or even groups of books of the Bible. We cannot linger here to state the views now so widely received concerning the Pentateuch, Isaiah, Solomon's Song, the Synoptic Gospels, the Apocalypse, etc.

I propose to give the effects of the new method as bearing upon the general study of the Bible.

It may be remembered that in the definition I gave it was stated that consequences destructive and constructive might appear.

And first, the destructive results. We have already attempted to show that the higher criticism does not destroy the Bible itself. That is left entire. But its character as literature, as history, as religious teaching, is made clear. The methods of the writers of those early days is in many cases laid open. There is no attack, open or covert, upon the book. But false estimates of it and unfounded teachings about it are shown to be supportless. The way is cleared for a true apprehension of its beauties, its truth, and its true function. This wonderful book has been made for centuries a pack-horse to carry the theories of pseudo-scientists and visionaries upon the functions of a book of religious teaching. The higher criticism makes this use of the Bible no longer possible.

The *inspiration* of the Bible is not destroyed. That is unsailable. No mine is driven against its truth. In fact, its true nature is exhibited in the results of critical research. But false notions about the inspiration of the Bible are by the processes of criticism shown to be baseless. Our tests reveal how untenable are such positions as, for example, that of Dr. Hodge, who tells us that "(inspiration) is not confined to moral and religious truths, but extends to the statements of facts, whether scientific, historical, or geographical." Persistence in that position necessitates the abandonment of all inspiration.

Biblical criticism has made impossible reliance upon a *priori* methods of reasoning about the Bible, its origin and nature. And it is destroying the wall of tradition built on deductive reasoning that kept the Bible from being "understood of the people."

These are but a few of the services rendered by the iconoclastic tendencies of the newer method. But its destructive tendencies are not its only virtue. It would be deserving of support if it did no more than clear the ground of the underbrush which has grown up and almost hidden the Bible from men's eyes. But, as Professor Menzies says in the *Contemporary* for April, 1895:

"The ultimate aim of criticism is not to deny, but to build up; and the very negations with which it sets out tend, by awakening inquiry and showing the traditional view of a subject, to bring about in time a positive and scientific construction, every part of which has been well tested, and may therefore be regarded with confidence."

Indeed, it can be affirmed with assurance that it has already produced positive results of the highest value.

It has rendered hermeneutics or the science of interpretation great benefits. It has done no small duty in putting the parts of the Bible in their true historical setting. The interpretation of many an obscure passage is at once cleared up, when the historical background and the immediate occasion for its utterance is known.

The "fourfold fetters" of the Council of Trent—conformation to the rule of faith, the practice of the Church, the consent of the fathers, and the decisions of the councils—no longer bind the Book of Books. Criticism has reinstated the principle of Luther:

"Every word [of Scripture] should be allowed to stand in its natural meaning."

Investigation of the word of Scripture in all the light shed by philology and history and archæology and all the kindred inductive sciences, makes clearer the "natural meaning" and therefore the content of "revelation" as given in the Bible. It is all the time making less and less possible false and distorted and warped and allegorical views of Scripture as a whole and of individual passages. "The historical sense first and above all" is the newer principle of exegesis.

In this way great advantage accrues to the pulpit. There is gained a firmer foothold, a more rational basis upon which to rest appeals to duty. Says one scholar known favorably to all schools of thought in two hemispheres:

"I owe any joy, any confidence, any power I have in preaching the Old Testament to the higher criticism."

The almost unanimous testimony of those who have been pressed onward by the procedure is that the Bible becomes deeper in intent and richer in content through the application of the newer research.

Speaking of the view of the Hebrew literature which relates to the origins of the nation and holds that they are idealised history, Professor Flint has the following:

"This view of their formation—of which Reuss and Kuenen, Wellhausen and Stade, have been among the most prominent advocates—does not deprive them of any of those rare merits either of contents or form for which they justly claim our admiration. The unity, consistency, naturalness, moral elevation, and spiritual instructiveness of the presentation of history given in the ancient Hebrew literature, are facts which cannot be denied, however they may have been attained.

"It reflected with wonderful faithfulness and completeness the theocratic life of Israel, of which it was an outcome. It was pervaded by a profound sense of a supernatural presence and of an eternal law making for righteousness. All events were exhibited in it from the religious point of view, God being set forth as the supreme factor of history, His will as the historical standard of judgment, and His kingdom as the goal of historical development. Yet human nature is also skilfully and truthfully delineated, in a style almost always simple and natural, and at times pathetic and sublime.

"... Man appears nowhere more man than where God is represented as miraculously (?) at his side."¹

Another of the services rendered by the subject of our consideration is that done to apologetics. The bitterness manifested against Spinoza and Hobbes and Tom Paine and other "infidels" was due probably in great part to the fact that no small portion of the declaration of those men was truth and could not be gainsayed. Men usually feel good-natured toward opponents whom they have whipped. But the apologetic of those times could not answer completely the arguments of the "infidels"; and consequently what refutation could not compass, invective was expected to accomplish.

Upon the Bible as read in these days the arrows of the early skeptics fall blunted and shattered. Now newer and more subtle objections are raised. To rebut these, keener and more discerning study by the faithful must follow, until the last arrow has been shot, the last bolt sped, and the Word of God remains unassailed and unassailable.

One great gain flowing from the work of the critics is the dis-

¹ *Philosophy of History*, pp. 48-49.

closure of the reason why to many Christian souls some parts of the Bible are infinitely more precious than others.

How many qualms of conscience have been raised, how many baseless fears for his salvation aroused in a humble believer by the consciousness that to him the Song of Songs did not appeal as did John xiv., that the answer of God out of the whirlwind of Job was not as beloved as the Twenty-third Psalm, nor the prayer of Hezekiah as 1 Cor. xv! Such a one often wondered why the pessimism of Koheleth did not come home as did the glorious optimism of Rom. viii.

The Bible to the Bible student no longer appears a level of Dead Sea waters with neither ebb nor flow. It is a stream whose origin in the mountains of antiquity is as obscure as that of the four rivers of Eden, but it emerges in history a river of salvation; now flowing deep and strong as the current of God's love, here it glides peacefully by banks of restful green where trees of healing arch their boughs and make refreshing shade, now it rushes a mighty torrent of impetuosity as the "kings of the earth set themselves, and the rulers take counsel together, against the Lord and against His Messiah," again it murmurs in sorrow as the wind of anguish sweeps its waters, and we hear in the throbbings of its tender music, "How shall I give thee up, Ephraim? Shall I deliver thee over, O Israel?" And so it goes sweeping on, its waters carrying refreshing to the nations and becoming a broad sea of deliverance heaving in the hand of the Almighty.

No less important for us to notice is the recovery by the higher criticism of the human element in the Bible.

In this it has done a service like that the newer theology is performing for the life of Jesus. One of Chas. Gore's Essays on Subjects connected with the Incarnation traces the gradual obscuration in theological dogma of the humanity of Christ, until He became unapproachable, was pure and sheer Deity, and then came as a necessity in Catholic ritual the invocation of the Virgin, for man must have a mediator! So the Bible had been removed and laid upon an unapproachable altar, and what followed was not reverent use but *bibliolatry*. This rock of offence criticism has drilled

and shattered, and has in the truest sense restored to the people the Bible, written by men, holy men indeed, but thoroughly human. And now the Book of Books comes throbbing through and through in response to the heartbeat of humanity, soothing sorrows, inspiring hope, giving comfort, revealing the great love of God for His creation, making known His yearning for His wayward children, and assuring men of His will that not one sinner should be lost, but that all should turn from their wickedness and live.

A question of the highest importance is the *necessity* of applying the processes of the higher criticism to the Bible.

We have asked whether it is possible in the first place and desirable in the second place that the Bible should be exempted. The reply is that it is neither possible nor desirable. We can do no other, therefore, than oppose firmly the school which insists on the irreverence of such treatment of the Bible. The plea of this school is, "The Bible is different from other Books for it is the Word of God." To question or cross-examine the Bible is "consciously to test the credibility of the Holy Ghost, to dispute the veracity of God Himself."

The reply to this is at least twofold: first theoretically. Yes, such is the claim! But something more than the assertion of a claim is needed. Moreover the claim itself cannot be set up as a bar to an examination of the grounds of the claim. Every pretension is not only subject to investigation, *it is of itself a challenge to investigate*. Besides, the usual statement of those who insist upon the exemption of the Bible from the processes of critical study is a perfectly correct one, that the Bible testifies to itself. Why then not examine it? But in the second place the theoretic answer to the objection issues practically in the phenomena of Christianity's contact with the world. Christianity aspires to be a world-religion, to embrace within its protecting arms the whole of humanity. It is distinctively a missionary religion if not *the* missionary religion. In fulfilment of its mission it comes into contact and conflict with the other religions which also have claims to be divine. The documents on which those religions rest are regarded by the possessors

as God-given. Claims are in conflict. How shall the dispute be settled? Mere vociferation, loud shouting of bare pretensions, will not secure the victory Christianity desires. And even if Christian scholars should desire it, they may not scrutinise the claims of non-Christian religions and documents while imposing upon all others the dilemma—"Believe (without evidence) or be condemned." Can a higher imperative be shown for Christianity's claims than for those of other beliefs? Then why oppose an examination?

Moreover, whoever discerns the condition of things in Christendom to-day sees that the Bible is assailed on historic grounds. The question is principally whether the defenders of the Bible shall be allowed to use in its defence the principles and methods used by the assailants so far as they are legitimate. As Dr. Aiken has expressed it:

"Neither unbelief nor the proudest and strictest science is more concerned to expose any unfounded claim that may have been made in or by the Church in regard to those Scriptures than the Church is to know precisely what it possesses in and with its sacred books."

Once more, the Bible appeals to our moral and mental faculties. As the astronomer in "The Poet at the Breakfast Table" has it:

"I claim the right of knowing whom I serve,
Else is my service idle; He that asks
My homage asks it from a reasoning soul."

And now, finally, we have to ask whether there are *limitations* to this process. The answer must be, that if revelation itself was gradual, if there was a progress in the knowledge of Himself and of man which God conveyed to the race, we must expect development in this human process. We cannot look for a human product to transcend that of the divine mind. We may not count upon a Minerva springing full-armed from the brain of the critic. We may hope for the growth of a sturdy oak, to outlast the centuries; or rather the course of events is to resemble the deposition, as by a stream, of particles which harden through the ages into everlasting rock—fit foundation for firm faith.

What are some of these limitations?

First, much still depends on the interpretation of passages

upon which conclusions are founded. To illustrate, there are those who find evidences of totemism among the Hebrews. They point to researches among kindred races, as the Arabs, the results of which seem to indicate the existence of totemistic customs. By this means they think to establish a probability that it is a Semitic institution. They then find in the Old Testament such passages as the Ebenezer text, 1 Sam. vii. 12, the references to the serpent as an object of worship, such names as Oreb and Zeeb—raven and wolf—Caleb (dog), Nahash (serpent), and regard these as evidences of totemism among Hebrews and their neighbors. The theory is a very fascinating one, but the data are wholly dependent upon interpretations that do not necessarily commend themselves to the scholar. Till the *meaning* of passages like these is definitely settled, such questions must wait.

A second limitation is that the critic must perforce depend for his criteria upon specialists in many various departments. In the growing volume and complexity of knowledge no man can be an expert in more than a very narrow field. The man who uses results attained by others in any department of research, must therefore wait till those results have the sanction of scholars in those departments. Impatience may in no case enter into the make-up of the critic. "The product of each new source of knowledge," says Prof. Fr. Brown, "is apprehended only by degrees. A long time is needed to exhaust it." He has, moreover, on his hands the delicate task of judging how vital to the problem which possesses him any fact or set of facts really is. The principle of proportion is no easy one to master. The proper adjustment of the elements of an answer is a task requiring not only nicety but firmness of touch. Indeed the qualifications of a critic differ from those of a poet, he must be both born and made; born with a fine mental and moral and spiritual endowment, and made in the workshop of the purest scholarship, the frankest candor, and the most reverent devotion.

A third limitation is the character of the phenomena which underlie the Bible, which are its cause. As Dr. George A. Gordon has said:

"The Bible transcends the mere historian. So far as it is outward fact, it falls within his domain ; but so far as it is a body of ethical and spiritual truth, it falls within the concern of humanity. The revelation of God as a record belongs to learning ; but as a moral and spiritual content it belongs to all prophetic souls."

What can criticism do with such facts as that embodied in the statement of Samuel, "Behold, to obey is better than sacrifice, to hearken than the fat of rams"? Whether the story of Samuel and Saul be history or legend, this teaching commends itself to the soul with an emphasis unmistakable. How can criticism treat the statement of the Master: "If a man keep my word he shall never see death; but it shall be in him a fount of water, springing up into everlasting life"? In a word, after criticism has done its best, completed its studies of words and style and mythologies and histories and what not, it comes to the question of Zophar: "Canst thou by searching find out *God*?"

As Professor Menzies has said :

"It may be maintained that the seed-plot of religion must always be sought in the ideal rather than the real."

What is therefore the attitude to be assumed by the critic? It is recognised in what has been said that an approach only to finality can be expected. The goal, like the goal of prophecy, recedes ever into the infinite. Results, like knowledge, must long remain partial, though approximating completeness. In the face of all this, the critic can least of men afford to be dogmatic. He must leave that to those who must be dogmatic to maintain their positions. He must recognise that conclusions reached now, while obligatory with present knowledge, are only tentative; that upon the *ruins* of what may seem to him an eternal structure may be erected the ultimate temple of truth. And he must be content if he be privileged to hew and shape some humble blocks which the great Architect may deem not unworthy of being built into the walls of the City of God.

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THE FIRST BUDDHIST COUNCIL.

PREFATORY NOTE.

TEITARO SUZUKI has made, in the present translations, the most valuable contribution to our knowledge of the First Buddhist Council, which has appeared in Western nations since Samuel Beal's translation from the Chinese Dharmagupta document presented by that scholar to the Oriental Congress at Berlin in 1881, and reprinted in his *Abstract of Four Lectures* (1882). It is well known to students of the *Sacred Books of the East* that there is, in the twentieth volume of that series, an account of the first two Councils of the Buddhist Order, translated from the Pāli. The account is a later addition to the Minor Section on Discipline, and we may call it the Council Appendix. It proceeds from the orthodox and aristocratic School of the Elders, the great rival of whom was the School of the Great Council (*Mahāsamghika*) who, says the pilgrim Hsüan-Tsang, admitted to their deliberations the common people, the foolish and the wise.¹ This being so, it is important for us to know both sides of the story, indeed as many sides as possible; and this we can do, to some extent, by reading the different sectarian statements translated by Suzuki. It is very satisfactory to me, on comparing the one document which he has in common with Beal (viz., the Dharmagupta) to find that the two Sinologues substantially agree in their list of the Canonical books.²

¹ The Ceylon Chronicles do not admit this sect's existence until the Second Council.

² The only real disagreement is Suzuki's *Itivuttaka* and *Niddna* in place of Beal's "good *Niddna Sātra*." I sincerely hope Suzuki is right, for the Pāli *Itivuttaka* is one of the jewels of the Canon.

Hermann Oldenberg, in his pioneer essay on the Canon (1879) threw grave doubts upon the historicity of the First Council, as Suzuki now reminds us. Rhys Davids, while admitting the doubt, subtracted from its cogency. (*S. B. E.*, XI., Intro., 1881.) For that doubt is based upon the argument from silence, viz: the silence of the *Decease Book* upon any convocation, while yet reporting the very speech of Subhadra which, according to the Council Appendix, gave rise to the Council. But there is another speech in the *Decease Book* which really requires a Council, or at least a discussion which would inevitably be decided by authority. It is the speech of Buddha to Ânanda: "If the Order should so desire, Ânanda, after my demise, let them abrogate the lesser and minor precepts."

Now, according to the Council document of the Great Council School, here translated by Suzuki, this speech did raise a vehement debate, as indeed how could it fail to? The document agrees with the Pâli account of the rival sect, that the objectors were overruled by Kassapa the Great.

Again, the *Decease Book* also tells us that not only monks and nuns, but laymen and laywomen, were, at the time of the Master's death, *bahussutâ, dhammadharâ*, full of learning and repositories of the Dhamma. In the Numerical Collection we find the names of the chief ones who were thus expert. This ancient list of disciples holds a place in the Pâli Canon like that of the Christian list in the Third of Mark. Now the list in the Numerical Collection tells us that *Kaccâna was the foremost among those who could accurately expand an utterance of the Master's which had been spoken concisely.* (*Anguttara* I., 14). The Middling Collection adds that Buddha complimented Kaccâna upon his ability to do this. (*Majjhima*, No. 18.) The same Nikâya (No. 84) tells us that Kaccâna converted the King of Avanti after Buddha's decease, and the monarch was ready to take him for his master. Besides this learned Kaccâna, there was Ânanda learned in the Suttas, Upâli in the Vinaya; while others, both clerical and lay, were preachers of the Dhamma, or otherwise expert in points of the great religion.

So obviously does this great list of disciples bear upon the First Council, that the oldest Chronicler of Ceylon gives a poetic

abridgment thereof in his two accounts;¹ for, like the Hebrew compilers of the Old Testament, the Ceylon Chronicler is not content with a composition of his own, but transmits two separate documents concerning each of the three Councils. These documents probably emanate from the Great Minster and some other monastery in the ancient capital of Ceylon.

There is, in the Pāli Canon, an archaic work, the *Itivuttaka*, which I venture to call the Buddhist Logia-Book. Each paragraph in this venerable Gospel-source is attested by the solemn words: "Exactly this is the meaning of what the Blessed One said, and thus it was heard by me."²

Though no names are given, this formula implies that ear-witnesses made depositions as to what they had heard from the Master.

Another ancient document, the Great Section on Discipline, exhibits a charming picture of the monks reciting the Master's words even during his lifetime: on the last night of the yearly residence during the rains, the reciters sat up late comparing notes and fixing in their minds the discourses they had chanted together. Another document of the Discipline, the Minor Section, tells us how the famous disciple Dabba the Mallian (who could light the monks to bed by emitting magnetic flames from his fingers) allotted apartments to the different reciters: the Sutta-reciters and the Vinaya-reciters were housed together. Another ancient Discipline document, the *Pārājika*, enumerates Nine Divisions into which the sacred lore was divided. Three of these divisions, *Jātaka*, *Udāna*, *Itivuttaka*, are names of leading books of the Canon to this day; a fourth one, *Sutta*, is the name of the great fivefold collection; while three other names enter into the titles of books or discourses.

Thus we have reason to believe, from the Canon itself, even in its oldest documents, that a Council to fix it after Buddha's decease was inevitable. The monks had been used to hold just such a council every year through the long decades of his life-work, and

¹ *Dīpavamsa* 4 and 5.

² Cf. "Gospel Parallels from Pāli Texts," in *The Open Court* for January, 1901.

they could not have done without one when he was no more. Again does the *Decease Book* come to our aid: "Ānanda, the Doctrine and Discipline set forth and laid down by me must, after my departure, be your Master." And again: "These four great References, O monks, will I set forth," viz.: that when a monk maintains a given doctrine to be that of the Buddha, of the Order, of the reciters, or of some Elder learned in the Āgamas, the Dhamma, the Vinaya and the Summaries (*Mātikā*), it must be compared with the established Doctrine and Discipline, *line by line and letter by letter* (*pa-davyañjanāni*). This implies, according to Western ideas, a written standard whereto appeal could be made; but many facts brought forward by Max Müller and Rhys Davids prevent our believing this. The appeal could only be, therefore, to some established form of the Sacred Lore *as held by the reciters in their collective capacity*: for, says the text of the Great References, a monk may be misled by a numerous company of Elders who are learned in the Āgamas (and so forth, as above). There must therefore have been *a standing Council on Doctrine and Discipline during Buddha's lifetime*.

The later testimony of the Council Appendix affirms that the Elders of the First Council *revised corruptions of the text*,¹ because Buddha had commended it. It had therefore been done before, doubtless at the yearly meetings aforesaid. The Council Appendix also gives a hint that more than one recension was compiled. For, just as Papias, when Peter and John were no more, said that he preferred the living voice of those who remained who had heard the Apostles, rather than written records; so, when the monk Purāṇa was informed that the Elders had recited and fixed the Canon, whereto he was asked to bow, he politely replied: "Gentlemen, the Doctrine and Discipline have been beautifully chanted in chorus by the Elders; but, all the same, I shall maintain what I heard and received from the mouth of the Blessed One exactly as I heard it."

Now Purāṇa was the leader of a party of five hundred—a sym-

¹ Thus do I translate *khandaphullam patisamkarimsu*, rendered in *S. B. E.*, XX., p. 373, "they repaired dilapidation."

bolical number, meaning a large body; and the same number is attached to the orthodox party. Therefore, from the moment of Buddha's death, there were at least two recensions of the Canon maintained by parties of equal strength. The documents here set before us by Suzuki plainly proclaim the existence of rival recensions, agreeing in fundamentals, but differing in arrangement and extent. We may gather from the Island Chronicle that a favorite bone of contention was the question: What is text and what is commentary? Accordingly we find that sharp divergences prevail in those portions of the Canon which embody commentary: the Short Collection and the Higher Doctrine (*Khuddaka Nikāya* and *Abhidhamma*).

Of course, the Canons here given as fixed at the Master's death are taken by each school from its own recension as it existed when the account was written; but this does not upset the fact that at least two such recensions existed from the first, viz., an aristocratic and a democratic. The first is the School of the Elders and the second the Great Council. It is true that the latter (the *Mahā-samghika*) did not formally secede until the second council, at the end of the first Buddhist century; but it has long been clear to me that its germ is to be found in the words of Purāṇo.

Suzuki's documents are valuable, if nothing else, as lists of the contents of the different sectarian Canons. It is just such fundamental documents as these that are in crying need of translation, from Sanskrit, Chinese, and Tibetan. We want to compare the statements of the conservative school, transmitted to us through the Pāli, with those of other sects who had other and rival recensions. (Unless we are very orthodox Theravādins, we may even call them Canons, in the plural, just as we should speak of the Greek, Armenian, and Abyssinian Canons of the Old and New Testaments, which accept or reject the Apocalypses of Enoch and John.) According to the Tibetans (*teste* Csoma) the Confessional (and presumably the Scriptures generally) were recited in four different dialects: Sanskrit, Pāli,¹ and two more.

¹ The name *Pāli* is not used, but from the names of the Ceylon sects who used the dialect called "the vernacular," we know that Pāli is meant.

Let us hope that Teitaro Suzuki will go on adding to our knowledge in the same useful way.

ALBERT J. EDMUNDS.

Historical Society of Pennsylvania, August, 1901.

THE FIRST CONVOCATION OF BUDDHISM.

The purpose of the present article is not to enter into an historical or critical examination of the First Convocation of the Buddhist Order, which is generally admitted by all the schools of Buddhism to have taken place immediately after the death of the Master. Though, some critics, for instance, Oldenberg, doubts its historical reality, it is apparently natural that the pious disciples of Buddha wished to rescue all his teachings from oblivion as soon as an opportunity presented itself. It may not, of course, have taken place in all its details as told by different sects, but even then those records possess an important historical significance on account of the light which they throw on the later development of Buddhism. Having this in view, I have collected and compared as many materials as available from the Chinese sources, but have refrained from giving an entire translation of them, which, however interesting to the specialist, cannot be presented in a limited space. The following summarised notes may serve in giving some insight into the nature of the First Convocation as well as into the attitude assumed towards it by different schools of Buddhism.

SOURCES.

The Chinese sources relating to the First Convocation of Buddhism are as follow :

1. The *Sudarçana-vinaya-vibhâshâ* (right-comprehension-vinaya-analysis): Case *Han*,¹ fas. VIII., pp. 1-4. (Translated by Samghabhadra, A. D. 489. 18 fasciculi.)
2. The *Mahîçâsaka-nikâya-pañcavarga-vinaya* (the Vinaya-text of the Mahîçâsaka school in five divisions): Case *Chang*, fas. II.,

¹ This refers to the Japanese edition of the Chinese Tripiṭaka, 1883, commonly known as the Kôkyô Shoin Edition.

pp. 68-69. (Translated by Buddhajīva with the assistance of some native Chinese Buddhists, A. D. 423-424. 30 fasciculi.)

3. The *Caturvarga-vinaya* (the Vinaya-text of the Dharmagupta school in four divisions): Case *Lieh*, fas. VI., pp. 49-51. (Translated by Buddhayaças and Chu Fo-nien, A. D. 405. 60 fasciculi.)

4. The *Mahāsanghika-vinaya* (the Vinaya-text of the Mahāsanghika school): Case *Lieh*, fas. X., 32-35. (Translated by Buddhābhaddra and Fā-hsien, A. D. 416. 46 fasciculi.)

5. The *Mūlasarvāstivāda-nikāya-vinaya-samyuktavastu* (the miscellaneous part of the Vinaya-text of the Sarvāstivāda school): Case *Han*, fas. II., pp. 87-93. (Translated by I-tsing, A. D. 710. 40 fasciculi.)

6. The *Vinaya-mātrikā Sūtra* (the Sūtra of the Vinaya-summaries): Case *Han*, fas. IX., pp. 15-16. (The translator's name is lost, but the work is considered to have been done under the Chin dynasty, A. D. 350-431. 8 fasciculi.)

7. The *Mahā-prajñā-pāramitā Cāstra* (a treatise on the great wisdom-perfection): Case *Wang*, fas. I., pp. 15-17. (The work is ascribed to Nāgārjuna. A commentary on the *Mahā-prajñā-pāramitā Sūtra*. Translated by Kumārajīva, A. D. 402-405. 100 fasciculi. The original is said to have been thrice as large as the present translation.)

8. The *Life of King Aśoka*: Case *Tsang*, fas. X., pp. 13-14. (Translated by An Fa-chin, between A. D. 281-306. 5 or 6 fasciculi.)

9. The *Record of the Compilation of the Three Pitakas and the Miscellaneous Pitaka*: Case *Tsang*, fas. VIII., pp. 32-35. (The translator's name is lost, but the work is said to be a production of the Eastern Chin dynasty, A. D., 317-420.)

10. The *Sūtra on Kācyapa's Compilation*: Case *Tsang*, fas. VIII., pp. 35-37. (Translated by Ân Shih-kao, a monk from Parthia, A. D. 148-170. The above two works are very short and consist of a few pages only.)

11. The *Accounts of the Transmission of the Dharmapitaka*: Case *Tsang*, fas. IX., p. 92. (Translated by Chi-chia-yeh [Kimkāra?], A. D. 472. 6 fasciculi.)

Besides the above works we may consult Fâ-hsien and Hsüan-tsang as well, but I have refrained from making extracts from these works, because good English and French translations are accessible to the students of Buddhism.

CIRCUMSTANCES WHICH LED KÂÇAYAPA TO SUMMON THE
FIRST CONVOCATION.

That Mahâkâçyapa, the first Buddhist patriarch, was the originator of the first assembly for compiling the Pitakas, is a matter of general acceptance by all schools of Buddhism. His motive, according to the Ceylon tradition, is ascribed to the imprudent utterance of a certain Bhikshu Subhadra¹ who, hearing of Buddha's entrance into Nirvâna, unreservedly gave vent to his feeling of relief, for he thought the religious discipline demanded by his Master was too rigorous. This tradition agrees with the records in the Vinaya texts of the Mahîçâsaka, the Mahâsanghika, and the Dharmagupta schools, and also with those in the Vinaya-mâtrikâ-Sûtra and the Sudarçana-Vinaya-vibhâshâ,² whereas in the Vinaya text of the Dharmagupta an additional reason why the Pitaka should be rehearsed immediately after Buddha's death is given by Kâçyapa thus: "We should now compile³ the Dharma and the Vinaya, in order that heretics (tîrthakas) shall not make us [the subject of] superfluous comments and censures, saying that the discipline of the Çrâmaṇa Gautama is like smoke; that when the World-honored One was living, all [his disciples] observed the precepts, but now, after his disappearance, there are none who observe them."

But the Vinaya text of the Sarvâstivâda, Transmission of the Dharmapitaka and the Mahâprajñâpâramitâ Çâstra do not make any allusion to the unwise Bhikshu. The Sarvâstivâda-vinaya, the Mahâprajñâpâramitâ Çâstra, and the Life of Açoka, on the other

¹ This monk Subhadra should not be confounded with Buddha's last convert, who happens to bear the same name.

² The name of the imprudent Bhikshu is Bhânanda in the Mahîçâsaka, the Dharmagupta, and the Vinaya-mâtrikâ; Mahallaka in the Mahâsanghika; Subhadra-Mahallaka in the Sudarçana-vibhâshâ-Vinaya.

³ *Chieh chi*. Literally, *chieh* means to tie, to join, or to unite, and *chi* to gather, to collect, to compile, and the like. The term is apparently an equivalent of *sanggti*, but I have retained its Chinese sense by translating it "compilation."

hand, state that Mahākāṣyapa was requested or instigated by devas who deeply lamented the possibility of the future loss of the Pitakas, if not compiled in due time. The Transmission of the Dharmapitaka, however, says nothing about the superhuman suggestion. To quote the Sarvāstivāda-vinaya: "Those devas whose long life extends over many kalpas were greatly afflicted at witnessing the Nirvāṇa of Buddha. But when they came to observe that many a sage had also entered into Nirvāṇa, they at last began to blame [the disciples], saying: 'The Sūtra, Vinaya, and Mātrikā [which constitute] the genuine Dharmapitaka taught by the World-honored One are left uncompiled; but surely [the disciples] are not going to have the right doctrine turned into ashes?'"

Surmising the wish of those devas, Mahākāṣyapa said to all Bhikshus: "You know that the venerable Ārjuna and the venerable Mahāmaudgalyāyana, each with a large number of great Bhikshus who could not bear witnessing Buddha's entrance into Mahānirvāṇa, had already reverted to a state of perfect tranquillity; and now the World-honored One himself, in turn with 18,000 Bhikshus, has also entered into Parinirvāṇa. All those devas who are living innumerable kalpas, however, come forth to express their deep grief, and blame us, saying: 'Why do you not have the holy teachings of the Tripitaka compiled? Are you going to have the deepest spiritual doctrine of the Tathāgata turned into ashes?' So I declare to you all that the greatest thing we can do now is the compilation of the Pitaka. All then responded: 'Well, let us do the work.'"

In the Transmission of the Dharmapitaka, Mahākāṣyapa is stated to have told all Bhikshus, as follows: "Buddha is now cremated, but we have no concern with the relics (cāṛīra) of the World-honored One, for kings, the rich, ministers of state, and lay-believers who desire the most excellent bliss will, of their own accord, make offerings [to them]. What we have to do is the collection of the Dharmacakshu [literally, the eye of the law], whereby to prevent an untimely extinction of the torch of the law. In order that it may illuminate the future generation, let a prosperous perpetuation of the Triratna be not interrupted."

The Record of the Collection of the Tripitaka and the Samyuktapiṭaka, which was translated during the Eastern Tsin dynasty, A. D. 317-420, agrees with the above-mentioned work in referring neither to the imprudent Bhikṣu nor to the suggestion of devas.

THE EXCLUSION OF ÂNANDA.

It is almost¹ unanimously recorded in all the Chinese books that Ânanda was not admitted to membership in the Convocation, until he attained to the state of mastery, through the reprimand of Mahākāyapa, which successfully awakened in his heart the feelings of deep remorse and shame. There is, however, no agreement of statements as to how Ânanda was instigated by him in obtaining final emancipation.

According to The Sudarçana-vibhāṣā-vinaya, Mahākāyapa insisted on the exclusion of Ânanda from the Convocation in order to protect it against all the reprehension that might arise from admitting one who was still in the stage of training; but the rest of the congregation thought it impossible to compile the Sūtras without Ânanda, so they admonished him to exert all his spiritual powers for the attainment of Arhatship.

The Life of Aṣoka, the Caturvarga-vinaya of the Dharmagupta school, and the Pañcavarga-vinaya of the Mahīśāsaka school, these three works generally agree in this connection. Ânanda was preaching the Law to a large crowd of people, not knowing anything about Mahākāyapa's determination to exclude him from the meeting. A certain Bhikṣu named Po-she,² who perceived through his supernatural insight that Ânanda was not yet free from attachment, felt pity for him, and told him the following in verse :

“Calmly sitting under a tree, contemplate Nirvāṇa.
Be not indolent, but exercise Dhyāna.
For what good would there be in chattering?”

¹ Except the Transmission of the Dharmapitaka, where no mention is made of this incident.

² So in the Caturvarga-vinaya, but Po-ch'i in the Pañcavarga-vinaya, and Po-shē-fu-to, as a disciple of Ânanda, in the Life of Aṣoka. It is very difficult to find the Sanskrit equivalents of those names when their meanings are not given, for there is a tendency among the so-called “old translators” to simplify long Sanskrit terms in such a manner as to make them appear like native Chinese names.

Thereupon Ānanda made up his mind to obtain final emancipation, etc., etc.

In the Sarvāstivāda-vinaya, a verse slightly different in meaning from the above is also mentioned, but it was given by a mysterious boy who served him as an attendant, instead of by a Bhikshu. This incident occurred after a severe censure by Mahākācyapa of eight misdemeanors committed by Ānanda. The Vinaya text states that Mahākācyapa at first considered what would be the proper way of treating Ānanda, whether with a severe reprehension or with a gentle encouragement. When he had determined to take the first course, Ānanda was brought before the congregation. Mahākācyapa said: "You must leave this place. [It is not proper for] this congregation of worthy [Bhikshus] to be associated with you in their work." Hearing this, Ānanda felt as if his heart were being pierced with arrows, and, trembling all over his body, he pleaded with Mahākācyapa not to exclude him from the congregation, as he was not conscious of any faults [which would justify this severe punishment]. Mahākācyapa now enumerated his eight misdemeanors, which caused Ānanda at last to retire from the assembly and to train himself for the attainment of Arhatship.

In the Mahāsaṅghika-vinaya, Ānanda is stated to have received a very humiliating treatment from Mahākācyapa. When Mahākācyapa was requested by Bhikshus to admit the former to their assembly, he said: "No, if such a one [who is still in the stage] of training should be admitted into a congregation of those who are above training and are perfect in their meritorious powers, he would appear like a leprous fox (?) in an assemblage of lions." When this ignominious comparison was communicated by a deva to Ānanda, who was travelling towards Rājagriha, it did not please him at all. But he thought that Mahākācyapa who well knew to what family he belonged, would not have referred to him in such a way, if he were free from prejudices. But in the meantime having attained final deliverance, Ānanda hastened through the air to the Convocation. Mahākācyapa, it is stated, then explained to him that he used such a vigorous expression, only as he wished to encourage him to reach the stage of Arhatship.

In the Mahâ-prajñâ-pâramitâ-Çâstra, the episode is described somewhat in a similar way to that in the Sarvâstivâda-vinaya. Ânanda is brought before the congregation by Mahâkâçyapa, and is reproached first for his not being yet qualified to rejoin it, and then for his six (not eight) misdemeanors. When Ânanda is expelled from the assembly, Mahâkâçyapa closes the gate behind him, and begins to compile the Vinaya with the remaining Bhikshus. Exceedingly mortified, Ânanda during the night exercised all his spiritual powers to reach the Path, and when at last he attained to the state of freedom from all prejudices, he rushed at midnight to Mahâkâçyapa's gates. Being told there to come inside through the keyhole, he did so by his supernatural power. Mahâkâçyapa consoled him, saying that the severe reproach had been inflicted upon him simply because he wished to see him enter into the state of Arhatship.

In the Sûtra on Kâçyapa's Compilation [of the Tripitaka] Ânanda is said to have been expelled from the congregation after he was censured by Mahâkâçyapa for his nine misdemeanors in the presence of the Samgha.

ÂNANDA'S MISDEMEANORS.

When Ânanda said to Mahâkâçyapa that he was not conscious of any faults, and that therefore there was no reason to exclude him from the assembly, Mahâkâçyapa enumerated several of his (duskrita), which were considered by him to be the proof that Ânanda was still in the stage of training. This incident is said to have occurred, according to some, before the compilation, but according to others, after it. To the former belong the Sarvâstivâda-vinaya, the Sûtra on Kâçyapa's compilation, the Mahâ-prajñâ-pâramitâ-Çâstra, and the Caturvarga-vinaya of the Dharmagupta school; to the latter belong the Vinayamâtrikâ Sûtra, the Pañcavarga-vinaya of the Mahîçâsaka, the Life of Açoka, and the Mahâsamghika-vinaya. But in the Caturvarga-vinaya, the Mahâsamghika-vinaya,¹ the Life of Açoka, the Pañcavarga-vinaya, the faults

¹ Here the accuser is not Mahâkâçyapa, but Upâli.

of Ānanda are simply enumerated without any reference to his qualification as a member of the Convocation.

The number of his faults as censured by Mahākāśyapa or Upāli is variously estimated at six, seven, eight, and nine. The following sums up all that was charged against him :

1. Ānanda asked Buddha for the admittance of women into the Saṃgha, in spite of Buddha's prediction that if women were admitted, the Law of the Tathāgata would not long abide on earth.¹

2. Ānanda did not ask Buddha for the prolongation of his life, when the latter expressly suggested this to him, by saying that those who were trained in the four supernatural powers could either prolong or shorten their life for the period of one kalpa.

3. When Buddha preached in parables, Ānanda made, in spite of his presence, some superfluous remark on them.

4. Ānanda trod on Buddha's golden-colored robe while trying to wash it (a), or while trying to sew it (b).

5. Being asked by Buddha to give him some water when he was going to enter into Nirvāṇa, Ānanda gave him muddy water (a), or he did not give him any, even when thrice asked (b).

6. When Buddha told Ānanda that Bhikṣhus might dispense with minor precepts, he did not make any inquiry as to what precepts should be regarded minor.²

7. Ānanda exposed the secret parts of Buddha in the presence of women, thinking that the act would tend to the cessation of their passions, but how could he know this when he had not yet attained to the stage of Arhatship?

8. Ānanda showed the gold-colored body of Buddha to a multitude of women, allowing them to defile it with their tears.

9. Ānanda first allowed women to worship the remains of Buddha.

10. When Ānanda was one time reproached by Buddha, he secretly cherished ill-will, and was mischievous to others.

¹ Most of the Chinese books here referred to give all the reasons by which Ānanda justified himself for having committed those alleged misdemeanors, but from want of space, no mention here is made of them.

² This naturally caused a vehement demonstration among the Saṃgha later.

11. Ānanda was not yet free from the three evil passions: lust, malice, and ignorance, while all the other Bhikshus assembled in the Convocation were free therefrom.

12. Buddha asked Ānanda three times to serve him as one who offers things (?) to Buddha, but he declined it.¹

The number and the order of these faults committed by Ānanda are different in different works.

In the Sarvāstivāda-vinaya eight faults are counted in the following order: 1, 2, 3, 4a, 5a, 6, 7, 8.

The Pañcavarga-vinaya counts six in this order: 6, 4b, 1, 2, 5b, 9.

The Life of Aśoka, six: 6, 5b, 4 (simply stepping on Buddha's robe), 2, 7 (the reason given by Ānanda is that he wished to awake in the minds of women the desire to be born as men in their future life), 1.

The Sūtra on Kāṣyapa's Compilation has nine: 1, 2, 10, 4 (simply stepping over the golden robe of Buddha), 5b, 6, 7, 8, 11.

The Caturyarga-vinaya states seven: 1, 12, 4b, 2, 5b, 6, 8.

The Mahāsamghika-vinaya describes seven, thus: 1, 2, 4b, 5b, 6, 7, 8.

The Mahā-prajñā-pāramitā Ćāstra has six: 1, 5b,² 2, 4 (when folding), 7.

The Vinaya-mātrikā Sūtra merely states that Mahākāṣyapa accused Ānanda for his seven faults, but does not particularise any of them: on the other hand it relates nine disadvantages arising from the admittance of women into the Saṃgha.

It is significant that the Sudarṣana-vinaya does not make any reference to Ānanda's misdemeanors.

THE INCIDENT OF GAVĀMPATI.

The incident of Gavāmpati in connection with the First Convocation is stated in all the Mahāyāna literature and also in some³

¹ Note how trifling all these accusations are.

² The fault is viewed here from two points: (1) not giving any water, (2) not knowing the fact that Buddha is able to cleanse any kind of water.

³ That is, the Sarvāstivāda-vinaya and the Mahāsamghika-vinaya.

of the Hīnayāna. In the Mahāyāna literature we have the following works: The Life of Aśoka, the Mahā-prajñā-pāramitā Śāstra, the Sūtra concerning Kāśyapa's Compilation, the Record of the Transmission of the Dharmapitaka, and the Record of the Compilation of the Tripitaka and the Samyuktapitaka. On the other hand, the Vinaya-mātrikā Sūtra, the Caturvarga-vinaya, the Pañcavarga-vinaya, and the Sudarçana-vinaya, all of which belong to documents of the Hīnayāna class, make no statement about the Gavāmpati incident.

The incident of Gavāmpati, though it is more or less differently recorded as to its details in different works, is briefly this. Hearing the great bell rung by Mahākāśyapa, the five hundred Bhikshus¹ hastened to the place of meeting, but when Mahākāśyapa found that one of them² called Gavāmpati³ had not yet joined them, he asked Anuruddha of the whereabouts of the missing Bhikshu. Being told that he was enjoying a peaceful life in one of the Heavens,⁴ he sent a message thither to invite him to the convocation presided over by Mahākāśyapa. Gavāmpati, who knew nothing about the late events relating to Buddha and his disciples, scrutinisingly asked the messenger why Mahākāśyapa, instead of the Blessed One himself, stood at the head of the congregation: what was the object of such a grand religious convention, and some other questions.⁵ When he was informed of all that had been going on below, he was so greatly afflicted that he said he had now no inclination to descend to the earth, which was made entirely desolate by the eternal departure of Buddha. So saying, Gavāmpati entered into a state of deep meditation, suddenly rose in the air

¹ The number of the Bhikshus who took part in the First Convocation is generally estimated at five hundred, but according to the Mahā-prajñā-pāramitā Śāstra, the Convocation consisted of one thousand Bhikshus.

² According to the Mahāsamghika, two Bhikshus were missing when the members were counted by Kāśyapa, but one of them, Anuruddha, soon joined them.

³ The Mahā-prajñā-pāramitā Śāstra makes him a disciple of Āriputra.

⁴ According to some, the Ārīvriksha (?) palace, but according to others the Ārīdeva palace.

⁵ So in the Sarvāstivāda-vinaya.

shining with supernatural brilliancy, and then consumed himself in a heavenly fire.¹

The Mahâ-prajñâ-pâramitâ Çâstra says that Gavâmpati having been fully familiar with the Vinaya and the Sûtra, his presence was necessary to the assembly.

According to the Mahâsamghika-vinaya, Mahâkâcyapa sent several messages to Heaven to summon those Bhikshus who were abiding there, but all of them, having learned that Buddha had already entered into Parinirvâna, were so exceedingly mortified that they disappeared one after another in the same manner. Mahâkâcyapa then declared that no more messages would be despatched to Heaven, nor should those Bhikshus who were living on earth enter into Nirvâna until their work of great importance had been completed.

THE PROCEEDINGS.

What was done by the Convocation? Were the Vinayapitaka and the Sûtrapitaka alone compiled? Did a compilation of the Abhidharmapitaka also take place? Did any dissension occur in the assembly? These questions constitute the most important part of the First Convocation, and the following abstracts from various Chinese translations are calculated to throw some light on them.

A. The Vinaya in Four Divisions (Caturvarga-vinaya).—When the cremation ceremony of Buddha was over, all the five hundred Bhikshus went from Vaiçâli to Râjagriha, where Mahâkâcyapa intended to summon the assembly. First, Ânanda was blamed for his seven faults, as already mentioned; then Upâli was requested to recite the Vinaya, beginning with the first of the Principal Sins (Pârâjika), as to the individual, the circumstance, and the nature of the crime. Rules concerning the Bhikshu and the Bhikshuni, the Prâtimoshka, the Poshadha, the Residing Season, the Wandering Season, the use of leather, the robes, medicaments, the Kaṭhina ceremonies,—all these regulations were incorporated in the Vinaya.

¹ The Sarvâstivâda-vinaya, the Mahâprajñâ-pâramitâ Çâstra, and the Sûtra on Kâcyapa's Compilation relate, in addition, that four streams ran out of his transfigured body, each murmuring a gâthâ which proclaimed the transiency of life and the lamentable departure of the Lord.

Ānanda was next asked to compile the Sūtrapitaka. Such Sūtras as the Brahma-jāla (translated Brahma-moving), the Ekottara (increasing by one), the Daṣṭottara (increasing by ten), the Formation and Destruction of the World, the Saṅgīti (chorus), the Mahānidāna (great cause), the Questions of the Çakradeva (Indra), were included in the Longer Āgama (Pāli, Dīgha Nikāyo); those Sūtras of middle length were called the Middling Āgama (Pāli, Majjhima Nikāyo); those in which the subjects were arranged numerically from one to eleven were called the Āgama Increasing by One (Aṅguttara Nikāyo); those which were miscellaneously preached for (?) the Bhikshus, Bhikshunis, Upāsakas, Upāsikās, Devas, Çakra, Māras, and Brāhmarājas, were called the Miscellaneous Āgama (Samyutta Nikāyo); and lastly such Sūtras as the Jātaka, Itivrittika,¹ Nidāna, Vaipulya, Adbhūta, Avadāna, Upadeça, the Explanation of Aphorisms (Nirdeça?), Dharmapada, Pârâyana,² Miscellaneous Discussions and several Gāthās, were comprised in the Miscellaneous Pitaka, (Pāli, Khuddaka Nikāyo, with other matter). The Discursive [Book] (Kathā Vatthu),¹ the Non-discursive [Book] (Vibhaṅga or Puggala paññati?), the Yoking (Dhamma Saṅgaṇi?), the Correlating (Yamaka?), and the Place of Birth (Paṭṭhāna?) made up the Abhidharmapitaka.⁴

B. The Vinaya in Five Divisions (Pañcavarga-vinaya).—When the five hundred Bhikshus were assembled in Rājagriha, Mahākāçyapa inquired of Upāli in due formulary of the four Principal Precepts (Pârājika) as to the place where they were occasioned, as to the individual with whom they were concerned, and as to the matter with which they dealt. All the Vinaya, for the Bhikshus as well as for the Bhikshunis, was compiled in this way.

Mahākāçyapa then asked Ānanda where Buddha taught the Ekōttara Sūtra, the Daṣṭottara Sūtra, the Mahānidāna Sūtra, the

¹ Not given by Beal.

² Beal gives the Anāgata-Bhayāni and Munigāthā.

³ This and following four titles are so concisely given in the text that it is very difficult to make out what they are, and the translation and the reference to the Pāli Abhidharma works here presented are merely tentative.

⁴ The text is reticent about the author of the compilation of this Pitaka.

Samgīti Sūtra, the Çrāmaṇaphala Sūtra, the Brahmajāla (translated Brahmā moving), as well as those Sūtras which were preached to Bhikshus, Bhikshunis, Upāsakas, Upāsikās, Devapūtras, and Devīs. When all the Sūtras were thus recited, Mahākācyapa declared to the Samgha: "Those longer Sūtras which are now compiled in one group shall be called the Longer Āgama; those Sūtras which are neither long nor short, and are now compiled in one group, shall be called the Middling Āgama; those which are miscellaneous preached to Bhikshus, Bhikshunis, Upāsakas, Upāsikās, Devapūtras, and Devīs, and are now compiled in one group, shall be called the Miscellaneous Āgama; those Sūtras which start with one dharma and increase by one, up to eleven dharmas, and are now compiled in one group, shall be called the Āgama Increasing by One; while the remainder, all consisting of miscellaneous teaching, and now compiled in one group, shall be called the Miscellaneous Pitaka. And to them all shall be given a collective name, Sūtrapitaka. We have now finished compiling the Law, and henceforth let us not put any unnecessary restraint on what was not restrained by Buddha; let us not violate what has already been restrained by Buddha; let us sincerely train ourselves according to the teachings of Buddha."

C. *The Vinaya-mātrikā Sūtra*.—Ānanda being admitted to join the assembly, and the five hundred Arhats having taken their seats, they began to compile the Tripitaka out of the materials which consisted of Sūtras in five or five hundred¹ divisions. Rules for the Bhikshu and Bhikshuni, and the Skandhas (divisions) relating to the Kaṭhina and other things composed the Vinayapitaka. The four Āgamas, (1) Long, (2) Middling, (3) Increasing by One, and (4) Miscellaneous—the last one consisting of those Sūtras which relate to Bhikshus, Bhikshunis, the Çakrendra, devas, and Brāhma-rājās, as well as (5) the sundry collection which comprised the Dharmapada, the Exposition, the Pârâyana, the Upadeça and others,—these five groups of the Sūtras were classified under the Sūtrapitaka. The Discursive (or Dialogical) Treatise (Kathā vat-

¹According to other editions.

thu?), the Non-discursive (or Non-dialogical) Treatise (Vibhanga?), the Mutual Enclosing (Dharma Sangani?), the Correlating (Yamaka?), and the Regions (Dhātu Kathā or Paṭṭhāna?)¹ made up the Abhidharmapitaka. And the general name Tripitaka was given to them all.

D. The Vinaya Text of the Sarvāstivāda School.—Mahākāśyapa and the five hundred Bhikshus kept the assembly in the Pippāla Cave. He announced that as Bhikshus in coming generations would be inferior in their natural endowment (literally, root, mūla?) and lacking in the power of concentration, the assembly would first compile, for the sake of such, the Gāthās (verses)² in which the Sūtra, Vinaya and Abhidharma³ were treated in comprehensive brevity. This was done before the meal. They then proceeded to compile the Sūtras. Ānanda was requested by Mahākāśyapa as well as by the Saṃgha to select and compile them. Having gone through due formality and having reflected on the impermanence of things, he thought: "Among those Sūtras which I heard personally from Buddha, some are traditional,⁴ some are preachings in the Nāga (Serpent) Palace,⁵ others are preachings in the heavens.

¹ Those five titles of the books contained in the Abhidharmapitaka closely agree, though the translation is a little different, with those above referred to in the Vinaya in Five Divisions, but the terms being too concise, we cannot give anything more than a mere conjecture as to their correspondence to the Pāli works.

² Was the Gāthā already existing side by side with the prose at the time of the First Convocation? Did Buddha himself put some most important tenets of his doctrine into a rhythmical form, that his disciples might learn them by heart? (Yes: See *S. B. E.*, XIII., p. 151.—Edmunds.)

³ Were some parts of the Abhidharma also versified?

⁴ Does this mean that Buddha preached on some traditional subjects, or that some Sūtras deal with traditions, or that the first sermons of Buddha, such as were delivered for the five Bhikshus in Vārāṇasī before the conversion of Ānanda, were heard by him afterwards from Buddha's own mouth, or from those who were then present, in which case the term tradition would be used in the sense of hearsay? Judging from similar passages in some other works, the last sense seems to be most preferable.

⁵ This statement is most significant, for many Mahāyāna texts are said to have been taken from the Nāga Palace where they were long preserved in secret. The Vinaya text of the Sarvāstivāda is generally considered to belong to the Hīnayāna work, and this fact makes the above statement much more mysterious. Is the Nāga Palace an ideal creation of later Buddhists? or is it some yet unknown region in the Himālaya? [Buddha converted several yakkhas, nāgas, etc.—Edmunds.]

As I keep them all in memory and do not forget any of them, I shall now recite them." All Devas expressed their willingness to listen, and Mahākācyapa praised the words of Buddha as the foremost of all doctrines.

Ānanda then recited the first Sūtra, the Dharmaçakrapravartana (Revolution of the Law-wheel), which was taught in Benâres for the five Bhikshus, one of whom, Ajñāta Kauṇḍiṇya, being present in the assembly, told Mahākācyapa how at that time he gained the eye of the Law. Hearing this, devas as well as those Bhikshus who were not yet freed from attachment,¹ uttered a pitiful cry as if their hearts were being pierced with thousands of arrows, and lamented that they could not hear those words of Buddha any more from his own mouth. In this lamentation the Bhikshus of the assembly also joined. When they recovered from the shock of deep feeling, Mahākācyapa declared that this first Sūtra, taught by the Blessed One, having been accepted by all, should be recognised as the genuine doctrine of Buddha.

The second Sūtra, Ānanda now went on, which was also preached in Benâres for the sake of the five Bhikshus, consisted in the elucidation of the Four Noble Truths and the Eight Right Paths. Kauṇḍiṇya's confirmation and Mahākācyapa's conclusion were declared as before.

The occasion which induced Buddha to preach the third Sūtra was also in Benâres for the sake of the five Bhikshus. He taught that the five Skandhas (aggregates) have no Ātman, that they are subject to transformation, that they cause misery, that one can save oneself from misery through a right comprehension of the nature of things. The conclusion of Mahākācyapa was the same as before.

¹ This is very strange, considering that those who were admitted to the assembly were all free from attachment, that is, they were all Arhats; but in spite of this were many other Bhikshus also admitted as the audience, though not actually partaking in the work of the compilation of the Tripitaka? In the Mahāyāna work a statement is sometimes made to the effect that the followers of the Mahāyāna Buddhism had their own convocation somewhere in the neighborhood. Does the present text refer to this, or to the council of the Mahāsanghika school as it is mentioned in Hsüan-Tsang?

In this way all the other Sûtras taught by Buddha in several places were recited by Ānanda and confirmed by the Arhats of the assembly. They were all classified in proper forms according to the subject: for example, Sûtras which treated the five Skandhas were grouped under the heading of Skandha, those which treated the six Āyatanas or the eighteen Dhātus were classified under the Āyatana or Dhātu; and so on with the (twelve) Chains of Causation, the (four) Noble Truths, the speeches of Çrâvakas, the speeches of Buddha, the (four) subjects of Recollection, the (four kinds of) Right Effort, the (four) Supernatural Powers, the (five) Indriyas, the (five) Balas, and the (eight) Bodhyangas.¹

Those Sûtras which are in coincidence with the Gāthās (verse parts), were called the Coincidence² Āgama; those which consist of lengthy teachings, the Longer Āgama; those which are of medium length, the Middling Āgama; those in which the subjects are numerically arranged, the Āgama Increasing by One. "There are," says Mahākāçyapa, "no other Āgamas than these" now compiled.

Next, the Convocation proceeded to compile the Vinaya, led by Upāli, who was considered by Buddha to be the first of the Vinaya-dharā.³ Being asked by Mahākāçyapa where, to whom, and on what the first rule of propriety, (Çikshā)⁴ was announced by Buddha, Upāli said that it was in Vārāṇasi (Benāres) and for the five Bhikshus, and that the matter related to the arrangement of

¹ These subjects also appear in the Abhidharmapitaka, as we see below. Do the statements mean that those subjects as taught by Buddha were classified with the Sûtrapitaka, while a further exposition of the same by his disciples was included in the Abhidharma?

² Samyukta in Sanskrit. *Coincidence* is a literal translation of it, which is commonly rendered *miscellaneous*, according to its derived meaning—so says the text.

³ Literally, those who carry the Vinaya, i. e., know it by heart.

⁴ It is very strange that Mahākāçyapa did not first ask Upāli about the four Principal Sins (Pārājika), instead of about such insignificant regulations as the Çikshā rules. Why does the Sarvāstivāda school attach such importance to the latter, while other schools invariably give the first place to the Pārājika, as is naturally expected? Noticing, however, the inconsistent statement which is made immediately below, I am inclined to think that some spurious elements have crept later into the body of the original text.

the undergarment. The second Çikshâ was recited by him in the same way.

As for the third Çikshâ, the text continues as follows:¹ "Mahâkâçyapa again said to Upâli: Where did the World-Honored One announce the Çikshâ? Upâli replied with a clear, penetrating voice: In Kalanḍaka Village.—For whom?—For Bhikshu Sudinna, son of Kalanḍaka.—What was the matter? If a Bhikshu training himself in the disciplinary rules, commits an adulterous act with another Bhikshu or with an animal, he performs a Pârâjika fault; nor is he allowed to cohabit."²

In this way all the parts of the Vinaya were compiled, which consist of the Pârâjika rules, Samghâvaçesa rules, two Aniyata rules, thirty Naissargika rules, ninety Prâyaçcittika rules, four Pratideçaniya rules, a number of Çikshâ rules, seven Adhikaraṇaçamatha, as well as the principal rules, obligatory rules, voluntary rules, rules for the Bhikshu, rules for the Upâsaka, regulations of the Karmavâca, conditions for conversion, the Poshadha, the season of residence, the wandering season, general and miscellaneous regulations, and the circumstances which brought forth all these rules and regulations.

The compilation of the Vinaya being thus finished, it now occurred to Mahâkâçyapa that, as the people in coming generations would be so lacking in intelligence and so poor in natural endowment that they could not comprehend the deep significance of the Doctrine by studying the text only, he himself would recite the Mâtrikâ,³ that is, Abhidharma, whereby to prevent the spirit of the Sûtra and the Vinaya from being obliterated by arbitrary interpretations. Having obtained the sanction of the Convocation, he comprised under the Mâtrikâ the following subjects: the four Objects of Smriti (recollections), the four Right Efforts, the four Super-

¹ The following quotation clearly shows how confusing the text is: "Upâli was asked to recite the third Çikshâ, and is stated to have told them about the first Pârâjika instead." As I remarked just above, the text must be considered to contain some later additions.

² Literally, to live together.

³ Originally tables of contents, as may be seen in the Pâli texts.—A. J. E.

natural Powers (Riddhi), the five Indriyas (lit. root), the five Powers (Bala), the seven Bodhyangas (constituent parts of enlightenment), the Eightfold Noble Path, the four Abhayas (fearlessness), the four Pratisamvids (unimpeded knowledge), the four Çrâmanaphala (obtainment of Çramaṇaship), the four Dharmapadas, the Ârāṇya (solitude), Wish, Knowledge, the Dhyâna of Boundary (the fourth Dhyâna?), Emptiness (Çûnyatâ), Unconditionality (Animitta), Freedom from Desire (Apraṇihita), miscellaneous Disciplines, various Meditations, the Right Entering, Presentation (or perception), Knowledge of Phenomena, Çamatha (tranquilisation), Vipacyana (insight), the Dharmasamgraha, and the Dharmaskandha.¹

When the compilation of the Sûtra, the Vinaya, and the Abhidharma was thus done, the heaven and the earth resounded with the praise of the devas.

E. The Vinaya text of the Mahâsanghika school.—Having reached at last the state of Arhatship, Ânanda was permitted to join the assembly, which unanimously acknowledged him as the disciple of best memory. They requested him to compile the Dharmapitaka.² When Ânanda began to recite, "Thus have I heard: 'Buddha was at one time in the Bodhimandara by the river Nairāṇjanâ,'" the five hundred Bhikshus showed their deep feeling, which, however, soon passed to the calm reflection that all things which originate from a combination of causes are necessarily subject to ruin and transformation.

The Dharmapitaka thus compiled by Ânanda consisted of the Longer Âgama; the Middling Âgama; the Miscellaneous Âgama,

¹ Observe that some of those subjects also appear in the Sûtrapitaka, while the identity of others cannot be determined, owing to the brevity of the statement.

² According to some the Dharmapitaka is identified with the Sûtrapitaka, as in the present text; while, according to others, it is a general name given to the entire collection of the sacred writings. This disagreement among the records of different Buddhist schools apparently shows that at the earlier stage of development of Buddhist literature there was no definite name for the Pitaka compiled by the First Convocation, which had probably been known by the simple designation, *Buddhāvācā* (Words of Buddha). Therefore we shall not run much risk in considering those terms which are now currently used by Buddhists themselves, as well as by Buddhist scholars, (to-wit, *Vinayapitaka*, *Sûtrapitaka*, *Abhidharma*, *Tripiṭaka* or *Dvīpiṭaka*), as the elaboration of later Buddhists.

which was so called because of its dealing with miscellaneous subjects concerning predisposition (lit. root, *mūla*), power (*bala*), enlightenment (*bodhi*), and the path (*mārga*); and the Âgama Increasing by one, which was so called because of a numerical arrangement of subjects from one up to one hundred:¹ while the Miscellaneous Pitaka comprised the Udâna (narratives), Itivrittika (incidents), and Nidâna (circumstantial notes), relating to Pratyekabuddhas and Arhats, which are written in verses (*Gâthâ*).²

Upâli, who was announced by Buddha as well as by the Saṅgha as the first of the Vinaya-dharâ, was asked next to compile the Vinaya text. He first told the Convocation that there were five sorts of purity, and then proceeded to censure Ânanda for having committed the seven faults as stated elsewhere, two of which, however, Ânanda refused to acknowledge.³

Upâli is said to have then recited the nine divisions of the Vinaya, to wit, (1) Pârâjika, (2) Samghâvaçesa, (3) two Aniyatas, (4) thirty Naissargika, (5) ninety-two Prâyaçcittika, (6) four Pratideçaniya, (7) Çikshâ, (8) seven Adhikaraṇaçamathas, and (9) rules conforming to the Doctrine. He also explained in addition various meanings of the Vinaya: for example, as to the distinction between the dreadful sins (pârâjika) and serious offences (sthûlâtaya), or as to a different classification of the Vinaya-text. When thus they had finished compiling the Pitaka, the ten hundred Bhikshus staying outside⁴ were called in and informed of the work of the Convocation.

¹ The reader will observe that the number of the subjects contained in the "Âgama increasing by one" differs in different texts.

² This statement is very valuable. The Mahâsaṅghika quarreled with the Theravâda about the contents of the Khuddaka Nikâya, where these books belong, and the very treatises which the Dîpavamsa says they omitted, are wanting here. —Edmunds.

³ It is noteworthy that according to the Mahâsaṅghika school the man who blamed Ânanda before the assembly was not Mahâkâcyapa, but Upâli, the first of the Vinaya-dharâ.

⁴ What does the statement here refer to, which says one thousand Bhikshus staying outside were summoned in? Hsüan-tsang mentions that the Mahâsaṅghika school, being excluded from the assembly of the Sthavira school, had their own compilation, meeting to the west of Mahâkâcyapa's convocation. Does the present text refer to that?

A vehement discussion now arose in the assembly as to what was meant by Buddha when he said to Ānanda that the precepts of minor importance could be dispensed with. A certain group of six Bhikshus went so far to the extreme as to say that "if the World-Honored One were still living, he would have everything at once abolished." Mahākāśyapa, whose majestic dignity and authority were equal to those of Buddha, then sternly ordered them to keep silence, and made a declaration that all which had ever been forbidden should be forbidden, and what had not been forbidden should not be forbidden, and that they should not give any chance to the heretics who were willing to blame the congregation at all costs.

The text concludes with a list of the venerable masters through whom this knowledge of the First Convocation was lineally transmitted down to the venerable Tao-lih (Bodhibala?).¹

F. The Sudarçana-vinaya.—When the five hundred Bhikshus were seated, Mahākāśyapa asked them what they would first compile, the Dharmapitaka or the Vinayapitaka, and to this they answered: "Venerable Sir, the Vinayapitaka is the life of Buddhism, and so long as the Vinayapitaka exists, Buddhism will also exist. Therefore, let us first produce the Vinayapitaka."

The next question was who should be the principal compiler of it: Upāli suggested that Ānanda could be chosen for the position, but it was not accepted by the assembly. Being recognised by Buddha as the first of the Vinaya-dharā, Upāli himself was prevailed upon to recite the Vinaya by a general vote. After due formulary he produced all parts of the Vinaya which consisted of the Prātimoksha of Bhikshu and Bhikshuni, and Skandhaka, and the Parivāra.

Mahākāśyapa then nominated Ānanda, according to a general wish of the Sangha, to compile the Dharmapitaka. The Brāhma-jāla and the Çrāmaṇa-phala were first recited, and then all the five divisions of the Sūtra, which consist of the Longer Āgama Sūtra, the Middling Āgama Sūtra, the Samyukta Sūtra, the Anguttara

¹ Why not give names, so as to compare with Theravāda list in Mahāvamsa?—Edmunds.

Sûtra, and the Khuddhaka Sûtra, the last one containing all the words of Buddha (Buddha-vâcâ) not included in the first four Âgamas.¹

The speeches of Buddha, the text goes on to say, are of one taste, have two functions, and are divisible into three periods: that is, they all teach the means of deliverance (moksha) which consist in morality, meditation, and understanding; they are composed of the Dharmapitaka and the Vinayapitaka; they are divisible into the first speech, the last speech, and those speeches which were delivered between them. The text then raises the question: What is the Tripitaka? to which is given the answer that it consists of Vinayapitaka, Sûtrapitaka, and Abhidharmapitaka, together with their analytic explanation.² The contents of the Tripitaka given in this way agree with those of the Pâli collection.³

*G. Mahâprajñâpâramitâ Çâstra.*⁴—Mahâkâçyapa in a friendly way requests Ânanda to compile the Dharmapitaka, saying: "Though there were many great disciples of the Buddha to whom the guarding of Dharmapitaka was entrusted, they are now all gone except you. Therefore, out of the compassion for all beings and in accordance with the spirit of Buddha, you shall compile the Buddhadharmapitaka." Thus requested, Ânanda ascends the lion-seat, and reverentially turning towards the place where Buddha's Nirvâna took place, says: "Though I did not personally hear the first preaching of Buddha, I have learned it by hearsay. When Buddha was in Vârâṇasî, he first opened the gate of nectar for the five Bhikshus and preached the Four Noble Truths of Suffering,

¹ The Pâli commentaries say the same.—A. J. E.

² This is very strange, because the text has before said that the First Convocation compiled the Vinaya and Sûtra only. I am inclined to think that these additional statements, as well as the succeeding detailed explanation of such terms as Sûtra, Abhidharma, Pitaka, and Âgama, are later interpolations put down here by way of commentary, but which in the course of time have been mixed up with the text.

³ The Chinese characters for transliteration in the present text, so far as they have come under my notice, strongly suggest that the text is a translation of the Pâli original, though I have retained the Sanskrit terms for the sake of uniformity.

⁴ The present text belongs to the Mahâyâna literature, and it will be very interesting to contrast its accounts of the First Convocation with those of the preceding ones, which all belong to the Hīnayâna Buddhism.

Amassing, Cessation, and the Path. Ajñāta Kaundinya was the first to perceive the Path, and 80,000 devas also all entered upon the Path."

When the one thousand Arhats assembled in the Convocation heard the words of Buddha as recited by Ānanda, they were greatly afflicted with the thought that they could no more hear Buddha's personal address. The Sthaviras Anuruddha and Mahākācyapa expressed in verses their deep feelings about the impermanence of things.

Mahākācyapa told Ānanda that all the teachings of Buddha, from the Dharma-cakra-pravartana Sūtra down to the Mahāparinirvāna Sūtra, should be classified in four divisions, each being called an Āgama, viz.: the Āgama Increasing by One, the Middling Āgama, the Longer Āgama, and the Coincidence Āgama.¹ And to them all was given a general name: Sūtradharmapitaka.

Upāli, who was recognised by the Saṃgha to be the first of the Vinaya-dharā among the five hundred Arhats,² was then asked to recite the Vinaya consisting of eighty divisions.³

Lastly, Ananda was again requested to recite the first Abhidharma taught by Buddha, as he was acknowledged among the five hundred Arhats to be most conversant with the exposition of the Sūtra. He addressed the Saṃgha: "Thus have I heard: Buddha was at one time in Ārāvastī, when he told the Bhikṣus that those who neither removed nor exterminated the five dreadful [sins], the five misdemeanors, and the five sorts of malice, would suffer in consequence innumerable misfortunes in this life, bodily as well as spiritual, and in the future would fall down into the evil paths; that those, however, who were free from these five dreadful [sins], five misdemeanors, and five sorts of malice, would enjoy in consequence various blessings in this life, bodily as well as spiritual, and in the future be born in a pleasant heavenly abode. What

¹ A literal translation of Samyuktāgama.

² Here, as well as further on, five hundred Arhats are mentioned. Is this the number of the Arhats assembled in the Convocation? If so, it is in direct contradiction to the above statement that there were a thousand.

³ One edition reads eight thousand, which is probably a misprint.

are those five dreadful [sins] which are to be kept away? They are: (1) killing, (2) stealing, (3) unlawful lust, (4) lying, and (5) drinking spirits."

All such matters were comprised under the *Abhidharmapitaka*. Thus ended the compilation of the three *Dharmapitakas*.

INCIDENT OF PURÂNA.

Three¹ out of the eleven Chinese translations which contain accounts of the First Convocation refer to the episode of Purâṇa, who was in the south² when Mahâkâçyapa and five hundred Bhikshus were working on the compilation of the Pitaka. According to the *Caturvarga-vinaya*, the event occurred in the following manner:

Having heard that the Convocation was taking place in Râjagriha, Sthavira Purâṇa hastened thither, accompanied by his party, which consisted of five hundred Bhikshus. He went to Mahâkâçyapa and asked if he also might be allowed to learn all that had happened. Mahâkâçyapa thereupon again summoned the assembly, requested Upâli to rehearse what he had recited, and had other things repeated as they had been done before. Purâṇa expressed his satisfaction with the general proceedings of the Convocation, except as to the insertion of the following eight indulgences, which had been plainly approved by Buddha, and unmistakably kept in memory by himself. The eight things were: (1) Keeping food indoors; (2) Cooking indoors; (3) Cooking of one's own accord; (4) Taking food of one's own accord; (5) Receiving food when rising early in the morning; (6) Carrying food home according to the wish of a giver; (7) Having miscellaneous fruits; (8) Eating things grown in (or by?) a pond.

These indulgences, said he, were not against the rule that forbids the taking of the remnant of food. Mahâkâçyapa told him that he was correct in saying so, but that Buddha permitted them only on account of a scarcity of food, when the Bhikshus could not

¹ The *Pañcavarga-vinaya*, the *Caturvarga-vinaya*, and the *Vinaya-mâtrikâ*.

² According to the *Pañcavarga-vinaya*, agreeing with the Pâli.

get a sufficient supply of it by going their rounds, and that therefore when this circumstance was removed, Buddha again bade them to abstain from these eight indulgences. Purāṇa, however, protested, declaring that Buddha, who was all-wise, would not permit what otherwise was forbidden, nor would he forbid what otherwise was permitted. To this Mahākāṣyapa replied: "The very reason of his being all-wise has enabled him to permit what otherwise was forbidden, and to forbid what otherwise was permitted. Purāṇa, we will now make this decision: That whatever Buddha did not forbid shall not be forbidden, and whatever Buddha forbade shall not be disregarded. Let us train ourselves in accordance with the disciplinary rules established by Buddha."

The Pañcavarga-Vinaya mentions, instead of the eight above enumerated, seven indulgences which, however, may be taken for eight, according to how we punctuate the passage, though the text apparently states "these seven things." They are slightly different from those in the Caturvarga-vinaya, to-wit: (1) Keeping food indoors; (2) Cooking indoors; (3) Cooking of one's own accord; (4) Receiving food in compliance with the wish of another; (5) Taking fruit of one's own accord; (6) Receiving things coming out of a pond; (7) Eating fruit with its seeds (or stone) removed, when received from one who is not a regular attendant in the Samgha.¹

According to the Vinaya-mātrikā Sūtra, the first of the eight indulgences is the keeping of food indoors, and the last is the eating of sundry grasses and roots (or roots of grass) growing by a pond, but the six intermediate ones are not mentioned.

Mahākāṣyapa is said to have told Purāṇa about the eight excellent qualities of Buddha, by virtue of which he could, when deemed fit, establish or abolish the rules for the benefit of the Samgha.

PLACE AND TIME.

All the Chinese works, already referred to, agree in stating that the First Convocation took place in Rājagriha, though they

¹ The last passage is not clear, and we may consider it either as forming an independent statement or as an appendix to the sixth.

differ as to the special locality of the city. The Saptaparna Cave, the Pippala Rock, the Kshatrya Cave, and the Gridhrakûta are the places thus mentioned in them.

As to the time, they unanimously say that the event happened immediately after the demise of Buddha, though they in no wise agree regarding the exact date.

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THE philosophy of the sciences is tending to-day clearly in two directions,—toward psychic monism on the one hand and materialistic monism on the other. One may choose as one likes, either the dynamic or the static aspect of phenomena. We may subordinate quality to quantity or *vice versa*. M. LE DANTEC, in a volume composed of different articles, *Les limites du connaissable, La vie et les phénomènes naturels*, affirms anew and with force the second thesis. Without quitting the ground of transformism, especially as Lamarck understood it, he is ambitious, as I have already had occasion to remark to your readers, to reduce the phenomena of life to the laws of physics and chemistry. Animals, he says, are the transformers and not the creators of motion. All the manifestations of life are, in the end, derived from the chemical phenomena of "assimilation." A modification of the properties of an organism is nothing else than a modification of the living molecules of which it is composed. So, in short, vital activity, the evolution of organised beings, is a phenomenon of the chemical order; and hence the facts of consciousness, as well as life itself, are ranged under the formula of a monism of which the movement of matter is everywhere the essential and fundamental principle.

I am far from contradicting this thesis, in so far as it signifies in the first place a methodical position, and since it serves as a directive hypothesis. Biology has already profited too much from researches undertaken in this direction for savants not to push

¹ Translated by Prof. Ira W. Howerth, The University of Chicago.

them as far as possible. We should not conceal the fact, however, that this point of view, in the eyes of many biologists who are not metaphysicians, does not exclude the validity of dynamism. M. Le Dantec himself is led to suppose, when there is a question of explaining the genesis and the nature of consciousness, that "the material elements of which our organism is composed contain *the elements of consciousness*," and it then seems legitimate to him to ask whether these latter elements—belonging to the atom just as life belongs to it—may not in biological phenomena take a directive rôle, so that considerations of *finality* would have their necessary employment in the study of these phenomena.

Such in effect is the position taken by M. GASTON RICHARD in his work, somewhat rambling but interesting, *L'idée d'évolution dans la nature et l'histoire*. He deliberately opposes Spencerian evolutionism and rejects its pretention, which is, in short, to submit all scientific disciplines to a mathematical theory of the universe. The metaphysic of Spencer, he says, is only a last form of the ancient doctrines, according to which consciousness is only an epiphenomenon, and qualitative diversity is reduced to the homogeneous, that is to say, to quantity. It pretends to sum up and unify without contradiction the "relative," to place necessity where there is causality, mechanism where there is life and action, to govern experience and the genetic method in the name of a purely rational law.

It might be, avows M. Richard, that Descartes and Spinoza were right as against Bacon, Hume, and Kant; that is to say, that a static knowledge of the universe answers fully only to our logical aptitudes, and that the rôle of experience is simply judgments pronounced upon the value of the details of a mathematical construction quite *a priori*. But, for himself, he does not think so. He is opposed to reducing the complex to the simple, to impoverishing the representation of the universe with the hope of rendering it intelligible. Vital spontaneity is denied, he declares, in order that one may not be led to affirm that, far from being an epiphenomenon, consciousness is the very basis of phenomena, connecting the parts of the universe, the conditions of its diversity and of its

unity; and, moreover, the evolutionist is obliged to recognise that it is everywhere and always inseparable from the evolution of an apparatus, the brain, which reacts upon the whole animal organisation.

Either evolution signifies the development of conditions implicit in a primitive condition, in which case the rôle of science would be limited to discovering the law or the order of this development, and the absolute would contain in itself and govern all the future: or it signifies the appearance and history of autonomous processes (whatever may be their connection with other anterior or concomitant processes), in which case the rôle of science would be to describe and compare these processes, and it would be necessary to admit the intervention of spontaneities which would produce them, and which would determine the realisation of possible contingencies within limits difficult to point out.

Here appears once more the metaphysical question of a law anterior to contingencies, of a general law common to all processes.

If the genetic method is incompatible with the idea of an arbitrary creation, it is not incompatible, according to M. Richard, with the idea of a plan which is realised as a plastic or poetic construction. It is not illegitimate to posit in the interior of the world itself this creative power whose nature is regularly manifested and which is found and is concentrated in the personal reflection of each human individual.

* * *

The work of M. RENOUVIER, *Le personalisme, suivi d'une étude sur la perception externe et sur la force*, falls naturally into this place. The same questions which divide biologists and sociologists are here debated and solved according to the idea of the liberty and spontaneity of the person. M. Renouvier takes up and fully develops what he calls the metaphysics, the sociology, and the eschatology of personalism; the notion of a divine, creative personality; the general conditions of a perfect world; the perfect society and the possibility of the fall; the ruin of the primitive world; the conservation and the reproduction of the human organism under new laws; and finally the possibility of a restoration of immortal beings.

Those of your readers who are not acquainted with the doctrines of this dean of our philosophers may find in this volume a new exposition of them, rich in scientific and historic views.

M. Renouvier is willing that the decisive argument in favor of the thesis of a beginning, a thesis which he knows is contradicted in the order of experience, may be furnished by "the principle of contradiction," this principle implying, he says, the logical impossibility of an actual whole of parts without end, of an actually infinite series of successive phenomena, real and discontinuous. So the order of experience ought to be distinct from the question concerning the origin and the cause of the phenomena which are subjected to that order. Here is evidently a difficult point, and I have already indicated some reservations in regard to the signification of the logical principles of contradiction, which I shall have further occasion to reproduce.

* * *

From M. FOUILLÉE we have two considerable works. His *Esquisse psychologique des peuples européens* covers a field which may seem pretty large, but it is one which, from his wide information drawn from conversations and reading, if not from travel and a large personal acquaintance, he was prepared to traverse. A book of this kind cannot well be epitomised. It must suffice to show how M. Fouillée undertakes to lay the foundation of the psychology of peoples and what conclusions he draws in the present study.

M. Fouillée distinguishes from the very first, the inborn character from the acquired character. One is psycho-physiological and results from the component races; the other is especially psycho-sociological and is produced by the action and reaction of individuals upon each other. If race "conditions" development, it does not, according to him, "determine" it. We may judge of races, moreover, only by their effects upon history, which is full of speculative considerations. There is a "sociological determinism" which truly characterises each people and defines it. He even permits us to lay down as a law the progressive predominance of the psychological and sociological factors over race and habitat,—which are more important at the beginning.

The influence of these latter factors, in my opinion, cannot be set aside, and the mingling of races exerts an influence upon the destiny of national groups. It is true, however, that races in mingling tend to unite, and that the habitat, up to a certain point, is also transformed. I have no decisive objection to oppose to the method of M. Fouillée. As to his conclusions, they bear the general characteristic of the neo-Latin peoples, or of people of Latin education,—opposite to the Anglo-Saxons. The prognostications which may be made concerning the future of a people involves many uncertainties. They are founded upon actual but always modifiable facts. Actual events may themselves result in historical movements whose manifold causes it is impossible to analyse and estimate exactly enough to affirm with certainty that they will all remain in play, or will continue to act in the same way. The future, in fact, opens up a long perspective in which we can see no further than to-morrow.

Nietzsche et l'immoralisme is the title of the second work of M. Fouillée. He criticises the doctrine of Nietzsche with the *finesse* which he knows how to put into this kind of a work. He compares it with the doctrine of Guyau, with which he is certain that Nietzsche had been very much struck, and undertakes to show the superiority of the latter. It is to be desired that we shall have an end in France of the literature of Nietzsche after such a historian as Lichtenberger has given us an excellent outline of his philosophy, and such writers as M. Fouillée and M. de Roberty¹ have shown its signification in modern thought. I admit that I have always felt a certain impatience in reading his so celebrated works. The excellence of his style cannot hide from my eyes the incoherence and the contradictions of his thought, the vanity and the excess of his pretensions. How can we repress a smile, moreover, at the ambition of the speculative moralists to change the course of the world, and even the heart of man, according as they shall attach such or such importance to moral factors, or as they shall invoke the principle of altruism or of egoism, the desire for power or ben-

¹ *Frédéric Nietzsche*, par E. de Roberty, éditeur Alcan.

evolence, the categorical imperative or happiness, the intensity of life or abnegation. All our doctrines remain in the abstract; real life, life as it is lived, knows nothing of them. No matter how pleasing it is to us closet philosophers to seek the sources and laws of moral activity in duty or desire, in pleasure or pain, or in the will to be,—whether we wish to establish obligation by present or future sanctions,—the human individual is not changed by it, and the necessities of existence continue to exercise upon him the same restraint. This is why the great religions themselves, which are certainly the most powerful of moral systems, have not modified human nature appreciably, so that they have sometimes been accused of exercising no influence upon conduct. Their effectiveness consists less in doctrine than in discipline, and it must be said that their morality, although remaining the same in its general principles, has been a continual compromise with the actual and variable interests of each society. The great religions, in a word, have mutilated man much less than the philosophers have done; they have known him better, they have known him as he is, with his good and bad tendencies, the weaknesses of the flesh and the noble aspirations of the heart.

What do we find, then, beyond the general precepts established by the experience of all peoples, in the great religious movements which are known as Buddhism, Christianity, and Mahometanism? We find these two principles: the duty of mutual assistance and the sanction of conduct by a superior power. And what do we find in contemporary socialism, or in nihilism, even as it is in Russia? Still these two principles. It is only necessary to transform the duty of assistance into positive law (an eleemosynary tax is not levied in Islamism), and to find a sanction in present reality, in a law affirmed as a higher law of life. Save these two points, the speculative moralists might arrange things to suit their own fancy, and the world in general would not be profoundly affected. The sources of activity, passions, needs, the connection between causes and effects, these things are for all times and places. Only ways and means are subject to change.

Here are some truths, I think, which it is well not to lose sight

of if we do not wish to become the dupes of our own speculations, as did Nietzsche in his foolish pride.

* * *

M. JEAN PHILIPPE gives us, in his *L'image mentale*, a very good psychological study. He endeavors to consider the *image*, apart from *memory* and *invention*, in the state of *simple representation*. He understands it as "a sort of living cell which preserves its own life through manifold and diverse transformations." In its elementary form, he tells us, this psychic cell, the representative image, is in reality as complex as the physiological cell. Each perception or representation is at once connected with and the outgrowth of all our previous and analogous representations. Furthermore, each has its history. Continually reconstructed, they increase on the one side, are diminished on the other, by effacement, by fusion, or by synthesis. Hence the object of the two first chapters of his volume; one giving us an analysis of the image, the other expounding the necessary reductions of it. A third chapter shows us why and how this mental compound is so unstable and subject to variations. Some *observations* clear up these delicate analyses and support the conclusions drawn from them.

Perhaps there should be some reservation in regard to the subject of the separation of the image, and in regard to memory. The remembrance of *having seen* is one thing; the remembrance of *what has been seen* is another. The memory I have of the Cathedral of Mayence, for example, varies according as the images upon which it is established vary. It remains attached to them, and it is in this sense that we speak so readily of the alterations of memory when we mean only the alteration of images.

Dr. Philippe describes with precision the fusion of successive images of the same object, which results in giving only a schema of that object. It would be easy to show the fertility of this operation in the technique of the artist. And this is what I indicated myself when I spoke of "general picturesque ideas," which are schema, but schema elaborate and flexible, while ordinarily they are dry and unproductive.

Under the title *Vus du dehors*, M. MAX NORDAU publishes a continuation of his studies on the novelists, the poets, and the modern French dramatists, studies which originally appeared in German periodicals and were translated into our language by M. Dietrich. They are not the studies of a common critic. There are few pages of Nordau, with his qualities as a writer, upon which may not be found a wide knowledge of man and things, which renders them instructive. In this volume the reader will find some important subjects discussed, such as the importance of observation in the literary art, the national value of history, the esthetic character of all religion, etc.

The volume of M. J. NOVICOW, *L'expansion de la nationalité française*,¹ is also a book "*vu du dehors*." M. Novicow looks upon the future as quite favorable to the French language and spirit. He perhaps neglects certain unfavorable factors, but it would be in bad taste to reproach him for it, and besides this is not the place to do so.

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From M. G. L. DUPRAT we have a study in "pathological and normal psycho-sociology," *The Lie (Le mensonge)*, which may be recommended to the attention of teachers, and from M. EMILE TARDIEU, a trenchant "psychological study" of ennui (*L'ennui*).

M. A. CRESSON in his *La morale de la raison théorique* supposes, rather hastily, that the doctrine of evolution may be accepted with all its consequences as a "universal law," and as the sole method. A bit hastily he departs from the way of idealism. He takes up the question where Guyau left it, but he treats it with less originality and does not distinguish himself very clearly from the numerous authors who have proposed the same solution of a morality purely rational and experimental.

M. G. DUMAS publishes the Theory of Emotion (*Théorie de l'émotion*) by W. JAMES, introducing it with a preface which sets forth this difficult, and not yet decided, question whether emotion

¹Armand Colin, publisher. When no publisher is mentioned, the volume is issued by Felix Alcan.

is of peripheral or partially cerebral origin, and he shows very clearly the differences between the theory of James and that of Lange.

M. LOMBROSO gives us a new edition of *The Man of Genius* (*L'homme de génie*, Schleicher, publisher) a work which belongs among the best of the author.

One of the most interesting facts of modern thought is assuredly the change which is taking place, I will not say at the very heart of the Christian faith, but in its form, its methods, its criticism and exegesis; the appearance of a disposition rather rational than mystic. On this point may be consulted a brief and substantial article by M. G. SOREL, entitled *The Crisis of Catholic Thought* (*La crise de la pensée catholique*, Jacques, publisher), reprinted from the *Revue de métaphysique et de morale*. I have just read it, and with great profit. M. Sorel thinks that the Church will doubtless find an advantage in the tendency of contemporary science to establish itself upon the "fact of consciousness," and he indicates the different sources which it will be useful to consult.

On mysticism, I may recall a work already cited here, a work by P. JULES PACHEU entitled *An Introduction to the Psychology of the Mystics* (*Introduction à la psychologie des mystiques*, Oudin, publisher), in which is expounded correctly the method which must be employed in the study of matters of this kind. I may mention also an excellent brochure by M. EMILE BOUTROUX, the *Psychology of Mysticism* (*La psychologie du mysticisme*, Bureaux de la Revue Bleue).

Interest may be found also in reading HENRI BRÉMOND's *Ames religieuses* (Perrin, publisher), six studies, of which three are devoted to Protestants (John Keble, Edward Hering, and Sheldon) and three to Catholics. A collection of articles by the Father ROURE entitled *Moral Anarchy and the Social Crisis* (*Anarchie morale et crise sociale*, Beauchesne, publisher) is worthy of mention. Finally I call attention to the study of the ABBÉ HOUTIN, *The Biblical Question Among the Catholics of France in the Nineteenth Century* (*La question biblique chez les catholiques de France au XIX^e siècle*, Picard, publisher), a history of the debates occasioned by the Biblical question, from which it appears that Biblical criticism is taking on more

and more, even in the eyes of the best of Catholic priests, the character of a positive science independent of confessional beliefs.

* * *

M. L'ABBÉ CLODIUS PIAT publishes his *Aristote* in the "Collection of Great Philosophers." He has the excellent thought of giving us simply a monograph on the Aristotelian system. This monograph, based upon the text itself and upon the best sources, is very well done, and adapted to serve as a valuable help to the student. The same collection is enriched with *Gasali*, by the BARON CARRA DE VAUX, one of the members of the Council of the Asiatic Society.

M. MAURICE BOUCHER has written an essay entitled *Essai sur l'hyperespace*, in which I recognise an amplification of some pages, much more precise, which may be found in the *Récréations et problèmes mathématiques* of Rouse Ball, a work which is cited by M. Boucher. He appears to have in view the founding on metageometric considerations some metaphysical inductions. But it is clear that we cannot pass from a mathematical fiction, however fruitful it may be for the material sciences, to the notions altogether or partially involved in the problems of God and the soul.

There remains a volume of which I should like to speak more extensively. It is that of M. H. POINCARÉ, *La science et l'hypothèse* (E. Flammarion, publisher). Readers of *The Monist* have already been made acquainted with one of its most interesting chapters. A critic has said, with some show of reason, that the personal doctrine of the author, in regard to the principles of geometry and mechanics, is a sort of "symbolism," almost as far removed from Kantian rationalism as from vulgar empiricism. M. Poincaré sees in ordinary geometry a "convenient language," and this is why it appears to him idle to ask whether all geometry not Euclidean is false. It is all quite as legitimate, though not adapted to the conditions imposed by sensibility. The great and ultimate problem considered in these studies is that of the *possibility* of science, that is to say, what we really may know about things. M. Poincaré places himself at the strict viewpoint of positive knowledge.

I received, at the last moment, a volume by M. LÉVY-BRUHL, *La morale et la science des mœurs*. The author possesses considerable merit, but I wish to defer reading his book, and I merely mention it here. The task is all the more agreeable, since I agree with him on the debated question of morality. I accept entirely what he says of morality as a "function of the social organisation" and a "part of the existing social reality"; of the "apparent universality of principles," and the "real particularity of precepts." Without repeating what I said two pages above, I may say that I have insisted frequently on the necessity of making a distinction between the psychological mechanism and the social aspect of moral phenomena.¹ The questions comprised under the name science of ethics are distributed between psychology on the one hand, and hygiene on the other. The mechanism of obligation does not vary, but the objects of duty change. Obligation follows the laws. General principles are the empty forms which each society fills in its own fashion. This is why the real revolutionaries in morals are not the theorists but the men of action. The work of M. Lévy-Bruhl is to be recommended not only because of the justness of his ideas, but also because of the richness of the considerations by which he supports them, and the comprehensive breadth of his exposition. Henceforth this book must be taken account of.

It remains to mention the *Année philosophique*, which has arrived at its thirteenth year (1902). This volume contains four studies: BROCHARD's "Lois de Platon et la théorie des idées;" HAMELIN's "Du raisonnement par analogie"; PILLON's "La critique de Bayle," "Critique des attributs de Dieu," and DAURIAC's "Essai sur la notion d'absolu dans la métaphysique immanente." It contains also a bibliography of French philosophy for the past year, pp. 135-306, followed by the *comptes-rendus*, always from the point of view of the critical school.

I should notice in conclusion a book by M. E. BOUTMY on the *Political Psychology of the American People* (*Psychologie politique du peuple américain*), which, however, I shall refrain from judging. In his study of the English people, M. Boutmy appears to me to attach too much importance to the qualities due to the influence of the climate of Great Britain. The psychological method of Taine presents the great danger of conducting sometimes to explanations a bit puerile, and to simplifications wholly unacceptable.

PARIS.

LUCIEN ARRÉAT.

¹ Most recently in *Dix années de philosophie*.

CRITICISMS AND DISCUSSIONS.

PHYSICS AND METAPHYSICS.

Sir Oliver Joseph Lodge (knighted for proficiency in physics) asserts that "life can generate no trace of energy, it can only guide it"; from which he infers that life is immaterial or hyperphysical. The answer to his assertion, I should say, is what the lawyers call a demurrer. The assertion is true; but the inference which he draws from it does not follow. Life cannot generate energy, to be sure. Nor can energy itself. Nor can anything else. The total energy of the universe is constant, admitting of neither generation nor destruction, as fixed by the law of the conservation of energy; a law, by the way, not generalised from experience, but a necessity of thought, to which all experience is subject, and which consequently is as little liable in the future to have a "question mark" placed against it by competent thinkers as the law of identity or the law of contradiction or any other part of the organic law of mind. In general, it may be said, the uniformities of mind, not excepting the absolute uniformities, answer to uniformities of matter, a subjective necessity being the obverse of an objective impossibility. The inner is the outer, transformed, not transnated. Resuming, the point to be proved in this discussion is not that life cannot generate energy, but that life cannot transform energy—is not a link in the endless chain of physical transformations. Professor Lodge is guilty of what the logicians know as *ignoratio elenchi*. He has mistaken the question in dispute. Energy is not generated, but is transformed, and life indisputably transforms energy—generates not energy but forms of energy. Life does nothing more or less than generate forms of energy. It consists in generating them—subsists by generating them. The distinction between energy and forms of energy, constituting the basis of physics, the distinguished physicist would seem to have overlooked, probably because the content obscured it. When Yankee Doodle came to town he could not see it for the houses.

How can life guide energy without itself having energy, one may ask in all seriousness? The deserved prominence of Sir Oliver Lodge among scientific people will excuse an examination of the mode in which he works out his fallacy. Guiding implies changing the direction of motion, which, if we may accept the law of motion accepted by physicists from Newton to Lodge or next to Lodge, can be done

only by force in the sense of something active. "Guidance," he nevertheless insists, "is a passive exertion of force without doing work; as a quiescent rail may guide a train to its destination, provided an active engine propels it"—a nondescript force, which he may be pardoned for not describing intelligibly—a sort of *tertium quid*, we may suppose, like St. Augustine's "light and air," part physical, part hyperphysical.

What is work, in the scientific conception of it? Moving through space against resistance, the scientists say; and the definition holds intrinsically no matter how small the space or how slight the resistance, applying in principle (nothing but principle concerns us here) equally to molecules and to the bodies which they compose. The work done in moving a train to its destination is, first, making the train move through space, and, secondly, making it move in the direction of its destination; of which factors the "active engine" supplies the one, the "quiescent rail" the other. Both are necessary. In the absence of either the train could not reach its destination—the work could not be done. Not the "red devils" of Paris or Narragansett Pier could reach their destination (were it anything but smash), unless directed by force homogeneous with the force that propels them.

As for the passivity of the guiding force, since the reaction of the rail on the engine equals the action of the engine on the rail, the two forces are equally passive, equally active. A force in equilibrium is not a passive force, but a force whose activity is balanced by that of a counter force. The resultant of forces in equilibrium is zero, but their activity is quantitative, and may be the maximum of one or both. The conception itself of equilibrium presupposes forces acting against one another. A body even in sensible motion, if the motion be uniform, is in equilibrium. Indeed, the forces acting upon a moving body at any instant, as the principle of d'Alembert affirms, may be resolved into a state of equilibrium. Equilibrium is thus kinetic as well as statical. "Statics," as a physicist of note remarks, "is but a special case of kinetics."

It is a static or equilibrated force which Sir Oliver Lodge pronounces "purely passive"—not "anything active"; and, as he uses these expressions in a philosophical inquiry, and rests his conclusion upon them, he may be held to use them in their absolute sense. In any other sense, for that matter, they are self-evidently of no use in his argument, which is employed to support the assumption that "life" and "energy" differ so radically as not to be interconvertible—as to have no common ground. A relative instance cannot illustrate, much less prove, an absolute distinction. Force at bottom is matter in motion; whether the motion is molar or molecular, sensible or insensible, is fundamentally indifferent. A force not "anything active" is a contradiction in terms. A "passive exertion of force" is a topping contradiction—Pelion upon Ossa piled.

Molecular activity may seem compatible with molar passivity, but molar passivity is seeming only, for, moved by gravitation, masses individually as well as particles act unceasingly, the tendency to act, comprehended in the law of gravi-

tation, being a stage or phase of action. Activity belongs to matter in all its forms, respectively—to each combination as a whole no less than to its simplest constituent. When a stone falls to the earth, the earth, taking into account both velocity and mass, does as much falling as the stone, and shares equally in the stress of the resultant equilibrium. No aggregate, as no aggregant, is "purely passive." On the ground floor of physics there is no room for the word "passive." The universe is of activity "all compact." This is commonplace to Professor Lodge, yet in the paper in hand he reasons as if he rejected it or had never heard of it.

A particle of the rail, to recur to his illustrative case (if I may dwell a moment longer on the point), which changes its position with reference to another particle without changing its distance, exerts essentially the same kind of force as the rail or as the engine that wheels upon the rail—a force not only active, but entirely physical, and, moreover, consisting exclusively in the change in the direction of the particle. This is the force to which, in a discussion of ultimate principles, life is gravely compared by a scientist of the first distinction, for the purpose of showing that life is hyperphysical—void of physical energy, and incapable of giving rise to any form of it.

The maze of technicalities in which mathematical physicists have enveloped physics, either for their own convenience or to render their science "caviare to the general," has no place in discussions so fundamental as the one under notice. He who should seek to escape from the pressure of unsophisticated reason, by taking refuge in the windings of this labyrinth, would add nothing to the sum of human knowledge, and might subtract something from whatever just fame he had achieved. What the world asks from science is not superstition or prejudice adorned with refinements; but truth unadorned. If the gem is not given, the setting may be spared.

To speak literally, does Professor Lodge, trained and accomplished physicist as he is, really mean that the direction of a body moving against resistance can be changed not simply without doing work, but without activity at all? If he does, what, in his opinion, has become of the law of motion formulated in its threefold aspect by Newton? If he does not, what becomes of his contention?

Continuing, our physicist or metaphysicist illustrates his position as follows:

"Scribbling on a piece of paper results in a certain distribution of fluid and production of a modicum of heat; so far as energy is concerned, it is the same whether we sign Andrew Carnegie or Alexander Coppersmith, yet the one effort may land us in twelve month's imprisonment or may build a library, according to circumstances, while the other achieves no result at all. John Stuart Mill used to say that our sole power over nature was to *move* things; but strictly speaking we cannot do even that; we can only arrange that things shall move each other, and can determine by suitably preconceived plans the kind and direction of the motion that shall ensue at a given time and place. Provided always that we include in this category of 'things' our undoubtedly material bodies, muscles and nerves."

In arranging that things shall move each other, do we not move "our undoubtedly material bodies, muscles and nerves," without moving which, indeed we cannot so much as plan or even think, be the movement duplicated hyperphysically or not? That one cannot exert his mind, without moving his body as the organ of his mind, if nothing more, is incontestable. But if we move our bodies we move the things which our bodies move. *Facit per alium facit per se* is a maxim as sound in philosophy as in law. Arranging for whatever purpose, therefore, whether to explode a mine, forge a name, operate a railroad, or take advantage of the forces of nature in any other way, involves not only moving the things arranged or pertaining to the arrangement, and moving them against resistance, but moving, first of all, the things that we call "our bodies, muscles and nerves." If we can move these "undoubtedly material" things, which stand at the head of the "category," why not the whole "category"? Is this eminent physicist one of the "blind guides which strain out the gnat and swallow the camel?" He says that, "so far as energy is concerned, it is the same whether we sign Andrew Carnegie or Alexander Coppersmith," which latter name has five letters more than the former. Whence comes the energy to scribble these letters, expressing the difference between the two signatures? If energy takes no account of this difference, something else must produce the letters that make it—life, perhaps, or some other force of the metaphysical or preternatural kind to which he refers that of life; but, if life can supply the energy to scribble the difference, why not the energy to scribble the sum? Besides, hyperphysical guidance is as indispensable in forming the several letters of these names, and arranging the letters into the names, relatively unimportant though the task may be, as in planning a forgery, donating a library, or arranging an explosion—directed activities all. If energy may dispense with immaterial guidance in the former operations, which he treats as material purely, why not also in the latter, which he considers a mixture of the material and the immaterial? Why this mixture? Supposing the immaterial to be anything more than the negation of the material, what is it? How can we represent it in thought? How can it express itself or get itself expressed in action? What is the use of it? Can that explain anything else which is inexplicable itself, and inconceivable, to boot? Is not the immaterial, so far at any rate as concerns life and mind, a fifth wheel, to say the least? What is mind, one may reverently ask, but matter not understood—matter of which radium is a clod?

When the author of the hypothesis in question wrote the article which sets it forth, where did the energy given out by his pen come from? Proximately, he will admit, from his muscles, which received it from his nerve-fibres, which in turn received it from his nerve-centers, interacting with each other, and with external things—a form of the physical whose interaction with a physical excitant, be it noted, not only gives rise to forms of energy distinctively physical, but, at the same indivisible instant and inseparably, gives rise to what we name the psychical, which, as conceived from this point of view, is neither of these interacting forms,

singly, nor both together, integrally, but simply and purely their mutual action, with the transformations it sets up in the physical energy stored by such action immemorially in the structure of the more evolved form. The psychical, as thus viewed, is the interplay of the organism and its stimuli, registered organically, retained, and susceptible, under laws solely physical, of reproduction, separation, reconstruction, and, in general, of the processes described collectively as cerebration or mentation, according as they are regarded from the viewpoint of the stimuli or of the organism. But this, as we have seen, is not the author's view. The merely scribal element of the writing he would assign to the physical alone. In his philosophy, it appears, scribing is not directive, and hence is physical; subscribing, on the contrary, is directive and hence hyperphysical. In consideration of the pregnant fact, however, that, while the physical exists independently of the psychical (witness the so-called inorganic world), the psychical confessedly depends on the physical, is conditioned by it, forms the counterpart (the phantom double) of its labyrinthine coursings point for point, what warrant has he, in science or philosophy, for concluding that the thoughts which his written characters were shaped to signify, and which guided his hand in shaping and arranging them, belong not to the physical at all, but to the hyperphysical alone? Where are the facts of experience—where the canons of reason—which I do not say necessitate but which permit this conclusion? I am using the term *psychical*, let me say parenthetically, in its ordinary sense of relating only to the human mind. Will Sir Oliver Lodge pretend that the physical has been proved incompetent to account for the psychical? Will he contend, that, before this has been done, we are warranted in turning down the physical, whose existence is known, but whose potentialities are unknown, and calling up an agency the very existence of which is not merely unknown, but unimaginable? Does he fancy that trampling on the law of parsimony is consistent with legitimate philosophising?

The supposed activity of the hyperphysical, no one denies, is identical in form with the known activity of the physical. What distinctive function, then, can the hyperphysical perform, supposing it to exist? Can the entity derive efficiency from a non-entity, which, if it were anything, would be debarred by hypothesis from interacting with the entity? Does the physical become hyperphysical by evolution, increase of degree culminating in subversion of kind, something developing into nothing? Is a fact difficult of comprehension made easier by an unthinkable explanation? But one need not beat about the bush. When an effect is alleged to arise from two agencies, whereof the one is physical, the other not only hyperphysical, but in the production of the effect admittedly incapable either of acting on the physical or of acting apart from it, what is the unavoidable inference? As the hyperphysical cannot act apart from the physical, it cannot of itself produce the effect or any part of the effect; and, since the hyperphysical can act neither on nor apart from the physical, it cannot co-operate with the physical in producing the effect: so that the hyperphysical, unable itself to produce the effect

or to aid the physical in producing it, can exert in the case no influence, auxiliary or principal, and the physical unaided must produce the effect, as on a lower range of development it produces the cloud, the rain, the rainbow. From this conclusion there seems logically no escape. The doctrine which imports a hyperphysical element into the origination of life and mind is demonstrably a delusion. The hypothesis, if thinkable, would be self-destructive. Unless I mistake, it has fallen in the rear of the procession—is antiquescent, if not antiquated. Soon its surviving friends will be likely to have the melancholy privilege of inscribing on its headstone: "Gone to meet Occasional Causes, and Pre-established Harmony."

Professor Lodge sums up his speculation in these words:

"My contention, then, is that whereas life cannot generate energy, it can exert guiding force, using the term force in its accurate mechanical sense; not 'power' or anything active, but purely passive, directing—perpendicular to the direction of motion; the same kind of force which can constrain a stone to revolve in a circle instead of in a straight line; a force like that of a groove or slot or channel or 'guide'."

He adds that "life" appears to him "to be something the full significance of which lies in another scheme of things." This undoubtedly is the thought which inspired his "contention," and to which apparently his physics is accommodated. Hence possibly these liberties with the elements of a science in which he is an acknowledged proficient. If so, the less credit to him. A theory may be very well; but, when a theory is used as an altar whereon to sacrifice elementary truths of science, and the sacrifice is performed, the priests of the altar must not complain if profane hands are laid on them.

His recapitulation suggests a word or two. Universally, and philosophically, force is matter in motion (energy); specifically, and scientifically, it is the impulse which changes the velocity or direction (the condition) of matter in motion—a mode of energy. Such as I understand it is "force in its accurate mechanical sense"—the strict acceptance of the term in physics. If life can exert force in this sense, it can "move things" with a vengeance, and is, according to his own showing, everything which he contends that it is not. If life can exert mechanical force in any sense, it is certainly not immaterial, but is as "undoubtedly material" as the body which it animates, and of whose forces it is in fact the moving equilibrium. We have all heard of the bungler who chopped off the tail of his dog just behind the ears. Professor Lodge would appear to have curtailed his argument with much the same maladroitness. He has done for it, anyway. His conclusion and the premises from which he has severed it, may be united "in another scheme of things"—but not in this world.

He exemplifies a guiding force without activity by citing the force which constrains a stone to revolve in a circle. That is to say, he assumes that the force which makes a moving body move in a curved path, continually changing its own direction in the process, is passive, although the circling body reacting against it is

active—that the deflected body exerts activity, the deflecting body none—that though the action and the reaction are equal, the reaction alone is active, the action "purely passive." An example nobler than a stone, and not less familiar, though even more conspicuously irrelevant, stood at his beck. The sun, above all other things in our region of the universe, exerts a guiding force of the kind cited. In guiding his planetary system, is he "purely passive," while only the planets which he holds in their orbits are active? Is gravitation active only in the circumference, passive at the center? In a binary star, for further example, which of the members is active, which is passive? Which is the guiding force? Which the guided? Will he kindly draw the line between them, and tell us which is which, and in particular exactly what either is as distinguished inherently from the other?

Attentive readers will probably observe that in this connection our theorist asserts by implication, syntactically speaking, that a stone can be made to "revolve" in "a straight line." This is a slip of the pen. But judicious readers may think that in point of rationality, not to say conceivability, there is little to choose between this slip, and the movement of his pen in the "groove" which (by "a passive exertion of force") he took pains to "arrange" for it. They may be emptied at least to pronounce his "contention" bad science and worse philosophy.

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BOOK REVIEWS.

THE SILESIAN HORSEHERD. Questions of the Hour Answered by *Friedrich Max Müller*. Translated from the German by *Oscar A. Fechter*. With a Preface by *J. Estlin Carpenter, M. A.* New York, London, and Bombay Longmans, Green, and Co. 1903. Pages, ix, 220. Price, \$1.20.

Our readers may remember an editorial essay which appeared in *The Monist*, Vol. 8, No. 1, page 123, October, 1897, under the title "Prof. Max Müller's Theory of the Self." It was a discussion of the Brahman theory of the atman with which Prof. Max Müller became acquainted in his study of the Upanishads and which he adopted as the corner-stone of his own philosophy. It is what may be briefly described as a theory of a soul in itself. The atman or the self is the real doer. Not the eyes see, but the atman through the eyes, not the feet walk, but the atman utilises the feet, not the hands work but the atman through the hands, not the mind thinks but the atman behind the mind. This atman is immutable and eternal. It is the real soul, and such an atman is supposed to reside in all things. Not the sun shines, but the atman behind the sun,—in a word it is the personification of things as things-in-themselves, and they are supposed to be the real thing.

Max Müller had written an essay on "Celsus" the well-known critic of the early Christians, a learned pagan whose books are known only through the Church-father Origen. This essay was written in a liberal spirit and elicited a reply in a private letter from a German-American farmer who signed himself "Das Pferde-bürle," which means the "horse-farmer." The writer declares that he had enjoyed the essay on Celsus and shows a great admiration for the professor's scholarship; yet he expresses at the same time regret (and he does it not without fine humor), that the learned Professor had not worked his way out to freedom but was still under the sway of some unscientific belief. Max Müller took great pains to answer his American countryman, and this answer is the most popular and most direct exposition of the belief in the atman that can be had. Prof. Max Müller here omits all learned by-work and goes directly to the point. At the same time he unconsciously exposes his weak spots and the untenability of his Brahman belief, for while we may believe in an atman of man it is difficult to understand what that atman will be in things. We know, for example, that the tree consists of root-stem, branches, and foliage, but we have no room for a tree in itself.

Prof. Max Müller had some further correspondence with his admirer in America, whose real name is Fritz Menzel, of Pittsburgh, Pa., where his temporary address was care of the Monongahela Hotel.

Prof. Max Müller's philosophy is philological to the core. Scholars who are dealing with words, not with concrete things, are apt to take the word as the reality and then treat all the realities which constitute the real thing as mere properties of their hypostasation. This reification of abstract nouns, so natural in a philologist who exaggerates the significance of words, is the basis of Prof. F. Max Müller's theory of the Self and of things-in-themselves, which is set forth in his essay *Language and Mind* (pages 105-153); but, as might have been expected, he failed to convince his correspondent, the horse-farmer.

Prof. Max Müller wrote a second answer to the "Pferdebürla" under the title of "The Reasonableness of Religion," which is a justification of his former position, containing many noteworthy passages and fine thoughts; but the impartial reader will feel that the most important points which the Pennsylvania farmer makes remain unanswered.

All these essays were written in German, and it was desirable that Professor Max Müller's views should be had in English. His widow, accordingly, prepared the whole series of essays for publication: (1) The "True History" of Celsus. (2) The Horseherd. (3) Concerning the Horseherd. (4) Language and Mind. (5) The Reasonableness of Religion. The whole was translated by an American admirer of the Professor, Oscar A. Fechter of North Yakima, Wash., U. S. A., and edited by J. Estlin Carpenter, the accomplished Páli scholar, an English Unitarian minister, well known among Orientalists through his editions of Páli texts and among Unitarians as a liberal theologian. Mr. Carpenter naturally sympathises strongly with Prof. Max Müller's position.¹

The book as it lies before us is well edited and well translated, although it is very difficult to bring out in English an adequate expression of the *Pferdebürla*'s humor. We may add that at the time of its first appearance we corresponded with Prof. Max Müller on the subject and invited him to write an answer to our criticism of his atman theory, but he never did.

P. C.

SECTARIANISM AND RELIGIOUS PERSECUTION IN CHINA. A Page in the History of Religions. By J. J. M. de Groot. Vol. I. (With three Plates.) Amsterdam: Johannes Müller. 1903.

Professor De Groot, the same who wrote a treatise on the non-existence of religious liberty in China, as reviewed in *The Monist* for April, 1903, page 478, here describes in a stately volume of 259 pages the conditions of the sects in China.

¹ We need scarcely mention that the translation "Horseherd" for *Pferdebürla* is a mistake. The foot-note on the first page of the Preface indicates that Professor Carpenter mistook the German word *Bürla*, which means *Bauer*, for *Bursche*; but the *Pferdebürla* himself explains the word as "a farmer who uses horses."

He dedicates the volume "to all missionaries of every Christian creed laboring in China," and collects a number of documents proving that the suppression of non-Confucian thought is deemed a basic principle of the Chinese government. This spirit is characterised in the Confucian dictum quoted by De Groot as a motto on the title-page, "The cultivation of heresy is so injurious!"

De Groot is one of the best-informed Sinologues, and the present volume is brimfull of valuable facts. He explains in the first chapter the fundamental principles of Confucianism regarding heresy, implying the request of its suppression. The second chapter contains a historical survey of religious persecution in China up to the seventeenth century. Persecution is not limited to non-Chinese religions but involves also Buddhist and Taoist sects. Chapter III. offers the documents containing the original text and faithful translations of the laws on convents and religious life. It is astonishing that, under these restrictions, it was at all possible for Buddhism to flourish; but the need of a religious faith and the satisfaction of a hope beyond the present life, such as Buddhism offers to the yearnings of the heart, overruled all obstacles and forced Buddhism again and again to the front, so that even in court circles and for the private religious wants of the emperor and his family Buddhist ceremonies proved indispensable. Chapter IV. contains the law against heresy and sects; Chapter V. discusses sectarianism, especially the power of the White Lotus Sect; Chapter VI. is devoted to the Sien T'ien, an important sect of Taoism; Chapter VII. characterises the Lun Hwa sect, its deities, its meeting places, the degrees of its devotees, initiation ceremonies and higher consecrations, its festivals, its influence in Chinese home life, and the observances in honor of the dead. The supplementary notices on sectarianism and heresy are relegated to the eighth chapter.

No one who wishes to be fully informed concerning the sad state of affairs in the religious life of China can afford to disregard Professor De Groot's book. P. C.

CHINAS RELIGIONEN. Zweiter Teil: Lao-tsi und seine Lehre. Von Dr. Rudolf Dvůřák, ord. Professor der oriental. Philologie an der k. k. böhm. Universität in Prag. Münster, i. W.: Aschendorff. 1903. Pages, viii, 216.

Aschendorff of Münster is a Roman Catholic publishing house which brings out quite a number of valuable publications, the general aim and tendency of which is to reconcile faith and revelation. The present work by Dr. Rudolf Dvůřák is one volume in a series of contributions to an exposition of non-Christian religions. The author, who is Professor of Oriental Philology at the Bohemian University of Prague (an institution which is distinct from the German University in the same city), takes special interest in Chinese studies and is the author of a volume on Confucius and his doctrine¹ which appeared several years ago in the same series

¹ *Confucius und seine Lehre.* (Chinas Religionen. Erster Teil.) Münster i. W. 1895. Aschendorffsche Buchhandlung.

as the first volume of *China's Religions*, a book distinguished by careful study of the subject and the collection of all the material that is apt to be of interest to European readers.

While the first volume of Dvorák's book on *China's Religions* treats of the life and doctrines of the man who shaped the destiny of the nation, the second volume is devoted to the second important man of China, the old philosopher Lao-Tsi.¹

Dvorák briefly discusses in the first chapter, *Lao-Tsi's Life*, quoting the report of Ssi-ma-tshien (p. 1), the great Chinese historian and alluding to other reports in the Confucian *Analects* and Cuang-tsi's (p. 7) report.²

Speaking of the authenticity of Lao-Tsi's book *Tao-Teh-King*, our author (in Chap. II.) accepts the current Chinese tradition as reliable and rejects Giles's theory of its spuriousness.

The bulk of Dvorák's book contains an exposition of Lao-Tsi's doctrine. Chapter III. contains a general exposition of the author's conception of Lao-Tsi's philosophy. He declares that Lao-Tsi believed (1) in Tao as the supreme being, (2) in Tek as the manifestation of the Tao, (3) in Tao as the origin of the world, from which come first heaven and earth, then the world of spirits, and finally the ten thousand things, among which two must be specially mentioned; the water, on account of its prominent qualities, and man as the highest creature. As to Tek, Lao-Tsi lifts up the ideal of the saintly man as a prototype for other creatures, and he characterises the saint first as a private personality, secondly as a member of society, and finally exalts him in politics as the ideal of a ruler.

This general sketch is discussed in detail in the fourth chapter, which alone contains more than half of the whole book (pages 33 to 130). He discusses the ideas of Tao and Tek, Lao-Tsi's conception of creation through the Yin and Yang, his idea of the unity of the heaven and earth, of spirits and ghosts, of the ten thousand things (the entirety of the visible creation), the ideal of the superior man, and the idea of the saintly man, and finally Lao-Tsi's conception of immortality, which may be briefly characterised as a final return to the Tao. Our author adds rightly that the alchemistic tendencies of later Taoism only prove how much Lao-Tsi was misunderstood by his later followers.

Chapter V. is an interesting comparison between Lao-Tsi and Confucius, from which, however, it becomes apparent how much the two sages agreed in spite of all claimed differences.

The sixth chapter is a brief description of Lao-Tsi's influence upon China, and

¹ We purposely retain in this article the spelling of Dvorák, although we are used to a different transcription of the Chinese characters and deem his method misleading at least to English-speaking readers, but since no system is perfect, we allow every author the right to use his own and striving to accommodate ourselves to readers of his book, we accept for review his own method of transcription.

² For translation into English of the same account, see Carus's *Lao-Tze*.

the last chapter is a *resumé* of the literature on Lao-Tsi among Western thinkers and a short review of the several translations that have heretofore appeared.

The book is carefully prepared, and the opinions of the author are both just and well matured.

THE MENTAL TRAITS OF SEX. An Experimental Investigation of the Normal Mind in Men and Women. By *Helen Bradford Thompson, Ph. D.*, Sometime Fellow in the Department of Philosophy, the University of Chicago, Director of the Psychological Laboratory, Mount Holyoke College. Chicago: The University of Chicago Press. 1903. Pages, vii, 188. Price, \$1.25.

This little work by Helen Bradford Thompson comes from the Psychological Laboratory of the University of Chicago which is under the direction of Professor James Rowland Angell, and may be taken as a sample of the work that is accomplished in this institution. The author's material consisted mainly of students of the University of Chicago, and she subjected them to experiments which fall into seven groups, "dealing respectively with motor ability, skin and muscle senses, taste and smell, hearing, vision, intellectual faculties, and affective processes. One chapter of this monograph is devoted to each group. A list of the experiments under each group will be found at the beginning of each chapter. At the end of each chapter there is a comparison of results with those of other investigators, and a general summary."

These seven chapters, II. to VIII., are illustrated by diagrams, and the result is summed up in tables which make it easy to judge at a glance what were the results of the experiments. The summary of the author's conclusions is set forth in the last chapter.

As to discriminative sensibility, our author says: "The number of cases in which the advantage is on the side of the women is greater than the number of cases in which it is on the side of the men. The thresholds are on the whole lower in women; discriminative sensibility is on the whole better in men. Those sensory judgments into which sensations of movement enter directly, such as the discrimination of lifted weights and of visual lines and areas are somewhat better in men. All these differences, however, are slight.

"As for the intellectual faculties, women are decidedly superior to men in memory, and possibly more rapid in associative thinking. Men are probably superior in ingenuity. In general information and intellectual interests there is no difference characteristic of sex."

For the sake of comparing her own views with the prevailing biological view of the mental differences between the sexes, our author characterises its general tenets as follows:

"The differentiation between the sexes in the course of evolution has been in the direction of a sort of division of labor, the male assuming the processes of nutrition and the female those of reproduction, which has made women more anabolic

and men more catabolic in physiological structure. This difference is displayed in its most elementary form by the two sexual cells. The female is large and immobile. It represents stored nutrition. The male cell is small and agile. It represents expenditure of energy. From these fundamental characteristics the social and psychological differences can be deduced. The female represents the conservation of the species—the preservation of past gains made by the race. Her characteristics are continuity, patience, and stability.... The male, on the other hand, represents the introduction of new elements. Males are more variable than females throughout the animal kingdom. Everywhere we find the male sex adventurous and inventive."

Our author concludes :

"It is evident that, on the surface at least, the results at which we have arrived accord very well with this theory. Men did prove in our experiments to have better-developed motor ability and more ingenuity. Women did have somewhat keener senses and better memory. The assertion that the influence of emotion is greater in the life of women found no confirmation. Their greater tendency toward religious faith, however, and the greater number of superstitions among them, point toward their conservative nature—their function of preserving established beliefs and institutions."

As our author does not wish to enter into the question as to whether or not woman's position will be changed in the future, she is satisfied with the following hint :

"There are, as everyone must recognise, signs of a radical change in the social ideals of sex. The point to be emphasised as the outcome of this study is that, according to our present light, the psychological differences of sex seem to be largely due, not to difference of average capacity, nor to difference in type of mental activity, but to differences in the social influences brought to bear on the developing individual from early infancy to adult years. The question of the future development of the intellectual life of women is one of social necessities and ideals, rather than of the inborn psychological characteristics of sex."

ESSAIS DE PHILOSOPHIE GÉNÉRALE. Cours de philosophie par *Charles Dunan*, professeur de philosophie au Collège Stanislas, Docteur ès Lettres. Paris : Ch. Delagrave. 1902. Pages, vi, 838.

This book of 838 pages, modestly called an essay, is properly speaking a compendium of philosophy, representing a course of all its branches, such as a student at a French university will have to pass through. The author, Charles Dunan, is Professor of Philosophy at the College Stanislas, and the book in its present form is the second edition which has grown out of the lectures and other practical labors of its author.

The book opens with a complete psychology, discussing the psychological method, the nature of consciousness, including the different theories of conscious-

ness, sensibility, pleasure and pain, the inclinations and tendencies, sentiments, passions and emotions. Our author then investigates the nature of intelligence, bodily impressions and the nature of sensation and perception, including the theories of nativism, empiricism, the association of ideas, imagination, attention, abstraction, generalisation, judgment, reason, and language.

A shorter but no less important part is the study of activity, will and habit, special attention being paid to the problems of freedom and the part which habit plays in mental life. An entire chapter is devoted to animal psychology in which Condillac, Lamarck, and Spencer and Darwin are quoted and criticised.

The chapter on art treats such subjects as the nature of art, the means employed by art, art and craft, the emotions roused by art, the realism of art, religious art, the beautiful and the sublime, the pretty and the ridiculous.

An entirely different field is covered in the second part of the book, pages 337 ff., which are devoted to logic, covering the field of formal logic and methodology, comprising the methods of the natural sciences, the nature of hypothesis, the methods of the moral sciences and sophisms.

Under the main head of Metaphysics, our author discusses the several psychological explanations, especially the materialistic, the spiritualistic, and after an elaborate investigation of the question of liberty, he gives an exposition of the contrast of determinism and fatalism. The second part of Metaphysics takes up a discussion of rational cosmology with its several solutions. A whole chapter entitled "Théodicée" enters into the several arguments of the existence of God, and contrasts theism with pantheism and atheism.

Professor Dunan's epistemology discusses the relativity of knowledge, the criterion of error, the proposition of scepticism, and concludes with the affirmation that a universal and necessary philosophy exists, and that this philosophy is the spiritualistic. Our author grants that there are difficulties, but spiritualism alone can explain the existence of intelligence.

The last part of Professor Dunan's book is devoted to ethics. He discusses the principles of ethics, the nature of conscience, the moral law, responsibility, the problem of the ought, personal duties and social duties.

The whole work is thoughtful, albeit in parts pedantic and although to some expositions, scientists, especially those who are devoted to what is commonly called the natural sciences, will make serious objections, it is, considering its standpoint, a fairly impartial elucidation of the several philosophical problems, the main aim being, as stated by the author in the preface to establish "the existence of a personal god, man's freedom of will and moral responsibility, and the existence of another life than the one which we have now in the sensible world. P. C.

PRINCIPES DE GÉOMÉTRIE. Par *E. Delsol*. Paris: C. Naud. Pages, 97.

Monsieur Delsol, a civil and mining engineer of Paris, proposes in this little book on the principles of geometry a new system which in its general outlines is

closely allied to the expositions on the foundation of geometry which have been set forth in *The Monist* during the last year.

Monsieur Delsol himself sums up his proposition in a summary of the introduction as follows: "Pure geometry is a science *a priori*, which admits neither of hypothesis, nor postulates, nor axioms," and we cannot but say that this maxim is heartily endorsed by the editor of *The Monist*.

M. Delsol continues: "If my reasoning *a priori* is susceptible of verification by experience, the conclusions to which it leads are naturally laws of the exterior world. The laws which the exterior world seems to obey are no others than those which govern our understanding. Man if transferred to another world would preserve the same ideas *a priori*."

M. Delsol's theory is based upon the principle of distinction which involves divisibility and makes it that the exterior world can be considered as consisting of parts. The result is the concept of series involving the idea of number, and here M. Delsol contemplates the notion infinite and continuous. He defines his view of equality, of number, of zero, of positive and negative numbers, addition, multiplication, etc. We cannot say that M. Delsol is happy in these important details and his definitions will scarcely prove satisfactory to mathematicians, least of all to those trained in the modern modes of thought. The definition of a point, for instance, seems to us artificial. It is given at the start of Chapter II. as the result of the series α, β, γ , ending in a last term which is characterised by the fact of being indivisible, and M. Delsol calls it "the geometrical point." The straight line is arrived at after a consideration of two intersecting circles, and he says: "The straight line is accordingly a line such as only one can pass through two given points. There is no other which would be equal to it, or to be short and use the usual way of speech, it is one of which only one passes through two points." Surface, line, and point are characterised in the usual way as boundaries, the surface as separating two parts of space, the line of a surface, and the point of a line, but here M. Delsol finds a new aspect. "Suppose the points *A* and *B* limit the arc *AB*, and this arc be considered in itself not as a partition of the rest of the circle." In that case the points do not separate, but are only the extremities of the arc, and thus he finds himself necessitated to invent a new name to distinguish this kind of a point from the one defined above. He calls it the "sous-point," saying, "accordingly, we call *sous-point* the end of a line that is not closed (*non-fermée*) and *sous-line* the boundary of a surface that is not closed, which is the locus of the extremities of lines in a surface that is not closed" (p. 48). Upon analogous modes of reason, M. Delsol introduces the idea of *sous-spheres* and *sous-straight*s (Chapt. III.). M. Delsol arrives at the conclusion that the Euclidean geometry is the only possible *a priori*. Time, number, and space is the triple emanation of the principle of distinction applied to the exterior world. He points out in the appendix that the non-Euclidean geometries do not agree with experience, and he scorns

the objections of their representatives. It is impossible to interpret experience by different geometries, for only one of them can be true.

While we confess that the underlying tendencies of M. Delsol's explanation of the principles of geometry have fundamental points of contact with the theory set forth in *The Monist*, we cannot regard the details of his exposition as a solution of the difficulties in question.

P. C.

AN INTRODUCTORY STUDY OF ETHICS. By *Warner Fite*. New York, London, and Bombay: Longmans, Green, and Co. 1903. Pages, xi, 383.

Prof. Warner Fite treats the subject of ethics mainly by contrasting hedonism with idealism, the ethics of happiness with the ethics of conscience and principle. He sides with neither party, but points out the necessity of a compromise. We may characterise his book by quoting the following passages:

"The moral problem is the expression of a conflict between our aspirations toward an ideally perfect and complete human life and the limiting conditions.

"The hedonist proposes to ignore the ideal considerations and to conform strictly to the conditions. For in these conditions, he claims, we discover the real ground of things. The world of which we are a part is a world of mechanical forces. It is therefore bound to work itself out in its own way and in its own time. No effort of ours will either accelerate the process or retard it. Therefore let us study its workings, conform to its movements, and be content with the comfort and happiness which it affords us. The idealist, on the other hand, urges us to ignore the conditions and to devote ourselves immediately to the pursuit of ideal ends. From his point of view, it is in the ideals, and not in the conditions, that we are to discover the real ground of things. The conditions by which we are hemmed in are after all mere negation. They represent nothing but the absence of self-consciousness,—or, in social terms, nothing but the absence of mutual sympathy and understanding. Therefore let us set out immediately and directly toward the attainment of the highest personal and social ideals.

"Though we cannot bring the two ends of our problem quite together, still it remains *a priori* conceivable that they may be brought together. In chapter xvi, it is pointed out that the conceptions of a world determined by mechanical forces and of a world determined by reason or consciousness, upon which the two sides of the problem rest, are not logically contradictory but only empirically irreconcilable.

"The practical significance of the moral situation may then be summarised as follows: Our human life is permanently problematic. We never reach a point either of complete realisation of ideals or of complete conformity to conditions. At every point of our existence we stand between two immediately contradictory demands, those of our ideals and those of our conditions. Theoretically, the two ought not to be ultimately incompatible, but practically they cannot be wholly reconciled; and our duty will not admit of an exclusive attention to either. It

must lie, then, in the best possible mutual adjustment; and the best possible adjustment must be that which, since both demand satisfaction, affords the greatest satisfaction to each.

"Since the requirements of a moral life include both progress and happiness, any course that we may take will be of necessity a compromise."

LEHRBUCH DER PSYCHOLOGIE. Von *Friedrich Jodl*, o. ö. Professor der Philosophie an der Universität zu Wien. Erster und zweiter Band. Stuttgart und Berlin: J. G. Cotta'sche Buchhandlung Nachfolger. 1903.

The appearance of the second edition of Professor Jodl's text-book of psychology proves the popularity of its author both as a psychologist and an academic teacher. The first edition, a stately volume of 767 pages, has been increased by a few hundred pages so as to make a division into two volumes advisable. The additions do not change the character of the original work, but only bring it up to date by incorporating discussions of more recent developments.

The character of the book has practically remained the same, and we can refer our readers to our review of the first edition, which appeared in *The Monist*, Vol. VII., pages 459-463.

Professor Jodl is an associationist, and he has here collected the vast material of psychological research, discussing in the several chapters: I. The Province and Methods of Psychology. II. Body and Soul. III. A Description and Analysis of the Phenomena of Consciousness. This is one of the most important chapters. Taking the ego as a basis, Jodl treats of the nature of consciousness as the subject-object, and discusses the narrows (*Enge*) and the threshold (*Schwelle*) of consciousness, its continuity, the main functions of consciousness, and finally its successive stages. IV. Sensations, including the methods of measuring sensations done by psycho-physics. V. The Several Provinces of the Senses,—cœnæsthesis, motor sensations, skin sensations, taste and smell, hearing, sensations of sight, including a discussion of the eye and the sensations of light and color. The second volume contains: VI. Primary Feelings, Sensory Feelings, and the Elementary Feelings of *Æsthetics*. VII. The Primary Phenomena of Will, Appetence, Movements, Will Proper, and Attention. VIII. Secondary Phenomena, Memory, Reproduction, Association, and Concentration. IX. Psychical Constructions of Reproduction, Time, Space, the External World, the Me and the Not-Me. X. Speaking and Thinking, the Origin of Language, Word and Concept, Judgment and Syllogism. XI. Feelings of a Secondary and Tertiary Degree, Feelings of Form, of Person, the Dynamics of Feelings, Complex *Æsthetic* and Ethical Feelings. XII. Phenomena of Will, of a Secondary and Tertiary Degree, defining will and the psychical antecedents of will, conflicts of the will, psychical inhibition, deliberation, decision, the nature of repentance, the illusion of the idea that one might have willed otherwise, the problem of freedom of will, the significance of the habit of will, inherited and acquired character, and characterology and ethics.

While the table of contents is very helpful, it by no means replaces the missing index, the desirability of which is not yet sufficiently appreciated by German scholars. A valuable appendix of Jodl's book, however, is a careful list of the psychological literature, which will be found very useful to the professional psychologist (pp. 407-448).

P. C.

OUR BENEVOLENT FEUDALISM. By *W. J. Ghent*. New York: The Macmillan Company. 1902. Pages, vii, 202. Price, \$1.25.

The expansion of Mr. Ghent's article in the *Independent*, April 3, 1902, into a book has given us the best piece of social satire since the appearance of Mr. Veblen's *Theory of the Leisure Class*. The word satire may not be altogether applicable in this case, for the main purpose of each book is scientific, i. e., to present and reason upon the facts. But sometimes facts are the most satirical of all things.

Mr. Ghent's book is an attempt to portray the drift of dominant social and industrial tendencies, to forecast the future social order by noting the direction of the current of industrial and social evolution. Modern tendencies as described here are toward great combinations in specific trades, coalescence of kindred industries and the integration of capital, an increase of farm tenantry, a stronger State, greater dependence of labor upon capital, etc., and the outcome is to be a "Feudalism which, though it differs in many forms from that of the time of Edward I., is yet based upon the same status of lord, agent, and underling." It is to be "a Feudalism somewhat graced by a sense of ethics and somewhat restrained by a fear of democracy." As "bondage to the land" was the basis of villeinage under the old *régime*, so "bondage to the job" will be the basis of villeinage under the new. These tendencies are pointed out and discussed with a wealth of illustrative material, which alone makes the book valuable to the student of social questions.

Apologists for the present order may criticise the book as a one-sided presentation of the facts, as ignoring or slurring opposite tendencies making for a true democracy, and there is some basis for this criticism. But the book is none the less valuable, for it takes a loud call to startle the complacent optimists who see nothing wrong with modern life, and, moreover, we cannot be sure that the author's forecast is not a true one, merely because he does not enumerate all tendencies. Those he does mention certainly exist, and no doubt the author hopes by presenting them forcibly to provoke thought that will lead to a strengthening of counter-acting tendencies. At all events, he discloses incidentally that, while present tendencies make for a benevolent feudalism, his own sympathies are with a vastly different social *régime*. The fine vein of irony running through the book, its felicitous expression, its marshalling of facts, and its luminous exposition of modern social and industrial life make it peculiarly interesting and valuable.

IRA W. HOWERTH.

STUDIES IN LOGICAL THEORY. By *John Dewey*, Professor of Philosophy, with the Co-operation of Members and Fellows of the Department of Philosophy. Chicago: The University of Chicago Press. 1903. Pages, xiii, 388. Price, \$2.50.

This book gives us a fair insight into the method and nature of philosophical instruction in the University of Chicago. It is edited by John Dewey, who himself contributes a series of four articles to its contents. As to the character of the book, the editor says in the Preface:

"This volume presents some results of the work done in the matter of logical theory in the Department of Philosophy of the University of Chicago in the first decade of its existence. The eleven Studies are the work of eight different hands.

"The various Studies present, the author believes, about the relative amount of agreement and disagreement that is natural in view of the conditions of their origin. The various writers have been in contact with one another in Seminaries and lecture courses in pursuit of the same topics, and have had to do with shaping one another's views. There are several others, not represented in this volume, who have also participated in the evolution of the point of view herein set forth, and to whom the writers acknowledge their indebtedness. The disagreements proceed from the diversity of interests with which the different writers approach the logical topic; and from the fact that the point of view in question is still (happily) developing and showing no signs of becoming a closed system."

The views commented on are those of Mill, Lotze, Bosanquet, and Bradley, and the editor with the courtesy of the modern scholar expresses to them his special indebtedness, and at the same time a pre-eminent obligation to William James of Harvard, to whom the book is tendered as an "unworthy token of regard and an admiration that are coequal."

Professor Dewey discusses thought and its subject matter in four articles, including the antecedents of thought, the datum of thinking, and the content and object of thought.

The other seven articles are as follows: "Bosanquet's Theory of Judgment," by Helen Bradford Thompson, Ph. D.; "Typical Stages in the Development of Judgment," by Simon Fraser McLennan, Ph. D.; "The Nature of Hypothesis," by Myron Lucius Ashley, Ph. D.; "Image and Idea in Logic," by Willard Clark Gore, Ph. D.; "The Logic of Pre-Socratic Philosophy," by William Arthur Heidel, Ph. D.; "Valuation as a Logical Process," by Henry Waldgrave Stuart, Ph. D., and "Some Logical Aspects of Purpose," by Addison Webster Moore, Ph. D.

LA MORALE ET LA SCIENCE DES MŒURS. Par *L. Lévy-Bruhl*, Chargé de cours à l'Université de Paris, Professeur à l'École libre des sciences politiques. Paris: Félix Alcan. 1903. Pages, 300. Price, 5 fr.

Prof. L. Lévy-Bruhl does not propose to inquire into the principle of morality nor to criticise the existent systems, but in agreement with the present tendency

among the philosophers and sociologists, he applies the principle of the positive philosophy to the current ideas of moral science. He claims that it is illogical to regard it as at once normative and theoretical, for in morality as well as in other branches of thought it would be irrational thus to conceive the relations between theory and practice. Theoretical science studies the given realities, that is to say, in the present case moral facts, and moral facts are social facts. Then only a practical application may be deduced from the established sciences.

An important part of the work is devoted to a reply to the several objections made by those who hold the old views. There is, e. g., a postulate, that human nature has always been and always will remain the same, but Lévy-Bruhl holds this conception is not tenable if we study the changes which society has undergone. Further, it will not be sufficient to base our notions of morality upon a psychological analysis of human nature. We must study sociology and derive the general principles as well as detailed applications from man's social relations. According to another postulate, commonly held, the moral conscience forms a moral and organic unity, but how about the conflicts of duties, how about the obvious changes in moral standards, which we observe in history? The author holds that positive morality must first of all collect and collate the facts, and shows how the adherents of the old school do not apply the scientific method. We must analyse the given realities of morality and judge them in their connection as well as in their conditions. We gain a higher view by comparative morality which will render impossible the narrowness of taking our own conscience as the type of all morality. If thus a moral science were established, we could base a rational morality upon it, and modify our moral principles accordingly, but at present such an enterprise is premature. Our author is not sceptical as to its realisation in the future, for, says he, science is never sceptical, and we shall finally be able to determine the fundamental laws of social and moral growth.

THE RELATIONS OF PSYCHOLOGY TO PHILOSOPHY. By *James Rowland Angell*.

Decennial Publications of the University of Chicago. Chicago: The University of Chicago Press. 1903. Pages, 21.

In discussing the points of contact of the several philosophical sciences, psychology, logic, ethics, and epistemology, Professor J. R. Angell touches upon the influence which biology of late has exercised upon psychology and hints at the possible solution of the problem of consciousness by the methods of a structural and, even more so, of a functional psychology. We can determine what consciousness is only by what it does. And this rule is applicable also in our investigation of the standards of value, especially of truth. Says Angell:

"Either we must suppress functional psychology, or else admit that the so-called ethical examination of the element of value in conduct—being in point of fact simply an examination of the condition of largest effectiveness in conduct—belongs in reality to the field of functional psychology; and we must admit, fur-

ther, that a functional psychology which did not give an account of these elements would be a bastard discipline and not what it pretended to be. The unavoidable coalescence of the problems of ethics and functional psychology is nowhere more obvious than in the realm of social psychology. . . . A closer inspection of the facts will show that all psychological and ethical questions with which the sociologist concerns himself are fundamentally questions of how and why consciousness performs certain operations and what the results are, i. e., are questions intrinsic to the conception of functional psychology."

Professor Angell concludes his essay :

"If a center of gravity for the detached portions of philosophy be necessary, psychology possesses as a claimant for this honor the notable advantage over its rivals that it is explicitly devoted to the study of the individual as such, from whom all philosophical problems emanate and to whom all solutions of them revert. When this psychological study is interpreted in a functional, as well as in a structural, sense, the theoretical distinctions between psychology and philosophy have ceased to exist."

—f.

DER KATEGORISCHE IMPERATIV. Rede zur Feier des Geburtstages Sr. Majestät des deutschen Kaisers, Königs von Preussen, Wilhelm II. Von Dr. Paul Deussen, Professor der Philosophie an der Universität Kiel. Kiel und Leipzig: Verlag von Lipsius und Tischer. 1903. Pages, 29.

A discussion of Kant's categorical imperative was chosen by Professor Paul Deussen as an appropriate subject for a spirited address, delivered in honor of Emperor Wilhelm II., at the official academical celebration of his birthday, Jan. 27. The remarkable solution of the Kantian problem is, according to Professor Deussen's interpretation, the statement that "Nature is appearance, not thing-in-itself," and while we do not find the *summum bonum* in nature, we find it in the thing-in-itself. Kant teaches that the highest good is found in God, Immortality, and Freedom; none of them is possible in nature. The existence of God is not only not proved but is even excluded by the order of things in the expanse of objective reality; immortality is absolutely impossible, and the idea of freedom so far as the domain of empirical investigation reaches, is untenable. Yet all three are safe possessions of man as soon as we turn to the realm of the thing-in-itself. There the irrefragable law of causation no longer applies, and thus the highest good of mankind resides in the nimbus of inscrutability (pp. 18-20). The categorical imperative, however, is the law which man as thing-in-itself dictates unto man as appearance (p. 21).

This is all pleasant news to those who believe in the gospel of things-in-themselves, but what shall become of the editor of *The Monist*, who in his latest book declares that things-in-themselves are mere hypostasisations, and that the idea is contradictory and untenable?

In consideration of the fact that the strength of the German army, the reliable-

ness of the German bureaucracy and the general welfare of the Fatherland was due to the categorical imperative having become incarnate in Frederick the Great, William the Great, and also in the present ruler of Germany, Professor Deussen concluded his speech with an enthusiastic *Hoch* for Emperor William the Second.

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A PHILOSOPHICAL ESSAY ON PROBABILITIES. By *Pierre Simon*, Marquis de Laplace. Translated from the Sixth French Edition by *Frederick Wilson Truscott*, Ph. D. and *Frederick Lincoln Emory*, M. E. New York: John Wiley & Sons. London: Chapman & Hall, Ltd. 1902. Pages, iv, 196.

The republication of the old classical books has become a demand, and we are glad to see the philosophical essays on Probability by Laplace translated into English and published in a good and readable edition. The calculus of probability was first laid down by Pascal who worked it out at the instigation of Chevalier de Mére, but Laplace gave the first exposition of the science as a whole, showing its applications in the several fields, its significance and its value. Laplace concludes his essay in these words:

"It is seen in this essay that the theory of probabilities is at bottom only common sense reduced to calculus; it makes us appreciate with exactitude that which exact minds feel by a sort of instinct without being able oftentimes to give a reason for it. It leaves no arbitrariness in the choice of opinions and sides to be taken; and by its use can always be determined the most advantageous choice. Thereby it supplements most happily the ignorance and the weakness of the human mind. If we consider the analytical methods to which this theory has given birth; the truth of the principles which serve as a basis; the fine and delicate logic which their employment in the solution of problems requires; the establishments of public utility which rest upon it; the extension which it has received and which it can still receive by its application to the most important questions of natural philosophy and the moral science; if we consider again that, even in the things which cannot be submitted to calculus, it gives the surest hints which can guide us in our judgments, and that it teaches us to avoid the illusions which oftentimes confuse us, then we shall see that there is no science more worthy of our meditations, and that no more useful one could be incorporated in the system of public instruction."

DIE WILLENSFREIHEIT. Eine neue Antwort auf eine alte Frage. Von Dr. *Adolf Bolliger*, Professor an der Universität Basel. Berlin: Druck und Verlag von Georg Reimer. 1903. Pages, iv, 125.

Dr. Adolf Bolliger undertook to answer the prize question proposed by "The Hague Association for the Defence of the Christian Religion" anent the theory of indeterminism, its tenability, and its significance in religion and ethics, the answer being an outright condemnation of determinism in any shape and the proposition of a theory of indeterminism based upon the idea of the reality of the will.

Will is not an unconscious being pushed, but a conscious and active pushing,—a truth which will be contradicted by few, if any. That form of determinism (so important for ethical considerations) which regards man's will and his character as the most important factor among the determining conditions is passed over in silence. In reply to the objection that an act of the will independent of any determining motives is incomprehensible, Bolliger quotes Lotze as authority that "comprehension means the reduction of special cases to a general law." A free act of the will, however, says Bolliger, is an *ἀρχή*, a new start, something aboriginal: accordingly it cannot be reduced to law and must necessarily be incomprehensible.

Bolliger's religious expositions of divine sonship, salvation, God's love, and man's sin, are very edifying pastoral effusions, and he praises God for his decisive victory over determinism which makes our souls swell higher with the consciousness that we are of divine origin and have a mission in life worthy of our station (page 107).

The Hague Association for the Defence of the Christian Religion did not grant the prize of 400 fl. to our author, but for some reasons not stated in the present pamphlet offered him a premium of 250 fl. with "an extremely restricted recognition" (*einer äusserst limitirten Anerkennung*).
K.

GESCHLECHT UND CHARAKTER. Eine prinzipielle Untersuchung von Dr. Otto Weininger. Wien und Leipzig: Wilhelm Braumüller. 1903. Pages, xxiii, 632.

This book is the work of an extremist. The first chapters are quite sensible, but very soon he shows himself a faithful adherent of Schopenhauer's views of woman. The present tendencies of woman's emancipation are to him nothing new. He claims that the same tendencies always existed, sometimes more or less pronounced, and that only manish representatives of the fair sex take to them. He regards woman as inferior to man. While man, in addition to his sexual life, may devote himself to art, science, or industrial labors, the existence of woman is limited to womanish interests. Herr Weininger maintains further that the psychology of woman is always written by men; he does not know that there are women psychologists in several colleges for women in the United States. We hope that he is unmarried and we wish that some writer of the fair sex might rise who would publish a similar book on man if only for the sake of parody. For some unknown reasons, the thirteenth chapter of the book is devoted to the Jewish question, in which the author shows himself as an outspoken anti-Semite.

L'ANNÉE PSYCHOLOGIQUE. Publiée par Alfred Binet, Docteur ès sciences, etc., avec la collaboration de MM. H. Beaunis, V. Henri, et Th. Ribot. Paris: G. Reinwald. 1903. Pages, 662. Price, 15 fr.

The French Psychological Annual, published by Alfred Binet with the assistance of Beaunis, Henri, and Ribot, contains a number of valuable original con-

tributions. The first is by Malapert, an investigation of the sentiment of anger among children; the second, by Bourdon, on the difference of the sensitiveness of the two eyes; and the third by the editor himself, a series of investigations on handwriting, during the state of artificial excitement, on the measure of sensibility, on one-sidedness in both children and adults, on the state of distraction, on the influence of suggestion in determining the threshold of sensation. The last of the volume, pages 253 to 656, is devoted to bibliographical reviews in the domain of physiological psychology and anthropology, and essays on visions, audition, touch, taste and smell, perception, ideation, association, memory, reason, imagination, suggestibility, moral and religious sentiments, æsthetic emotions, the instincts, the will and movement, pedagogical, pathological psychology, comparative psychology and general questions.

OUTLINES OF PSYCHOLOGY. An Elementary Treatise with some Practical Applications. By *Josiah Royce, Ph. D., L.L. D.*, Professor of the History of Philosophy in Harvard University. New York: The Macmillan Company, London: Macmillan & Co., Ltd. 1903. Pages, xxvii, 392. Price, \$1.00.

Professor Royce's *Psychology* is published as a volume in the Teachers' Professional Library, edited by Nicholas Murry Butler, President of Columbia University. The editor says in the Introduction:

"How and by what warrant do I pass from a knowledge of my own mental states to a knowledge and interpretation of the mental states of others? What are the primary evidences of mind? Into what and how few simplest units can my own complex mental states be broken up? What are the processes of mental growth and development, and what laws govern them?"

"If the student of psychology gains clear and reasonable convictions on such points as these, he has not studied psychology in vain."

Professor Royce's book is an attempt to answer these questions. In it he discusses the definition of psychology, the physical signs of the presence of mind, its nervous conditions and general features, the sensory experience and mental imagery, the feelings, devoting several chapters to the consideration of docility. The concluding chapter discusses the will.

GRUNDZÜGE DER PHYSIOLOGISCHEN PSYCHOLOGIE. Von *Wilhelm Wundt*, Professor an der Universität zu Leipzig. Fünfte völlig umgearbeitete Auflage. Dritter Band mit 75 Abbildungen im Text. Leipzig: Wilhelm Engelmann. 1903. Pages, ix, 805.

Professor Wundt's third volume of the outlines of physiological psychology contains his investigations of our notions of time, pages 107-241; the phenomena of volition, 242-319; consciousness and the flux of concepts, 320-517; psychical associations, 518-641; anomalous states of consciousness, 642-677; general conclusion, 677-755; and a discussion of the principles of psychology, 756-793.

The chapters on detailed investigations give us a clear insight into the laboratory work of Professor Wundt, which is the prototype of all psychological laboratories in the world. All other German and also all the American laboratories have developed after the precedence of the work of Professor Wundt, who can rightly be styled "the father of the psychological laboratory."

Though the interest in Professor Wundt's books is great, it reaches a climax in the last two chapters, which discuss in a masterful manner the relation of psychology to the natural sciences and also questions of general importance. Here we have a careful discussion of the basis of all natural sciences, the principle of cognition, causation, teleology, mechanics and energetics, mentalism and vitalism, and the significance of the will in psychology.

The last chapter discusses the conception of the soul. In this discussion Professor Wundt substitutes the actuality of the soul for the idea of soul-substance. The soul is real not because it consists of substance, but because it is active; and its immateriality does not lessen its significance in the domain of science.

L'ESPRIT SCIENTIFIQUE ET LA MÉTHODE SCIENTIFIQUE. Par *Louis Favre*, Directeur de la "Bibliothèque des Méthodes dans les Sciences expérimentales." Paris. Librairie C. Reinwald. 1903.

The author of this spirited pamphlet, Monsieur Louis Favre, the editor of a magazine entitled *Bibliothèque des Méthodes dans les Sciences expérimentales*; expresses his belief in the scientific method, finding the essence of science in the scientific spirit, which is a love of truth, and a truthful adherence to the results obtained. It is the scientific spirit that makes science, constituting its essence and unity. It causes the progress and the discovery of truth, and the rejection of error. When the truth is found, it insists on having its statement accompanied with the necessary evidence and proofs, and shows a desire to communicate it to others so as to make the truth known and loved and recognised. The scientific spirit should be and will be the most powerful factor of man's life, ruling all human affairs. The day will come when the scientific spirit will penetrate everything, and its dominion over the world will be established.

Such are the conclusions of Monsieur Favre, set forth in a series of chapters with laudable zeal and insistency.

WHAT IS MEANING? Studies in the Development of Significance. By *V. Welby*. New York and London: The Macmillan Company. 1903. Pages, xxxi, 352. Price, 6s.

Lady Victoria Welby has devoted years of study to the word and the importance of "meaning," and in the present work we have her views on the application of its science and philosophy. The first of it may be expressed in her own words as follows:

"We must, at least, look forward to the substitution of the Significian for the

Metaphysician,....and we shall attain to what has here been called binocular thinking; we shall not merely adopt or expound, we shall not even be content merely to develop, we shall *account for* the great systems or the typical formulas of ancient or modern philosophy....The true philosophy, like the true science, appeals to intelligence as intelligence....The true philosophy comes not to abstract, but to interpret; not to destroy, but to fulfil; not to give mere passive reflection but to prove itself the creative energy of mind,—a ray of that Light whereby we learn what beauty, what goodness, what love, in brief, what life in its highest sense may be."

UEBER DIE GRENZEN DER GEWISSHEIT. Von Dr. Ernst Dürr, Privatdocent in Würzburg. Leipzig: Dürr'schen Buchhandlung. 1903. Pages, vii, 157. Price, 3 Marks 50 Pfg.

This pamphlet on the boundaries of certitude, written by Dr. Ernst Dürr, Privatdocent in the University of Würzburg and a disciple of Prof. Oswald Külpe defines the limits of cognition for the purpose of justifying religious belief. The author investigates the relation of epistemology to the several sciences and finding that consistency or absence of contradiction is the criterion of possibility, he comes to the conclusion that there is no absolute criterion of truth. He justifies what he calls scientific belief (perhaps better, belief of science), and also what is well described as ethico-metaphysical faith. His argument centres in the idea that the unity of the world represents and verifies the belief in God, which appears first as belief in the development of that which possesses worth and secondly in the hope of immortality. This is not the way in which faith naturally originates, but the author cherishes the confidence that he has succeeded in justifying it.

A HISTORICAL AND CRITICAL DISCUSSION OF COLLEGE ADMISSION REQUIREMENTS. By Edwin Cornelius Broome, Ph. D., Sometime Fellow in Teachers College. New York: The Macmillan Co. Berlin: Mayer and Müller. 1903. Pages, 159. Price, \$1.00.

It is not only interesting but important to know the requirements for admission to the colleges of a country. This work has been done by Dr. Edwin Cornelius Broome in one of the Columbia University contributions, and we may say that this collection furnishes the means of watching the growth and the changes of university life of this country.

ESQUISSE D'UNE ÉVOLUTION DANS L'HISTOIRE DE LA PHILOSOPHIE. Essais par Nicolas Kostyleff. Paris: Félix Alcan, Editeur. 1903. Pages, 224. Price, 2 fr. 50.

The author characterises the evolution of mankind as being determined by an instinctive tendency towards a monotheistic conception of the universe,—a conception which finds its first great spokesman in Spinoza, to whose life and works the second part of this spirited little pamphlet is devoted.

THE SOUL. A Study and an Argument. By *David Syme*. London and New York: The Macmillan Company. 1903. Pages, xxxi, 234. Price, 4s. 6d. net.

The author discusses the nature of life, of reflex action, of consciousness, teleology, instinct, and transformation. He takes great pains to refute Darwin and defend Paley's *Natural Theology* against modern innovations. He is quite anxious not only to deny a materialistic conception of the soul but to insist on the doctrine of mind as a substance. He says that "mind is a real substance, and not a product, property or function of some other real or supposititious substance; that sensation and consciousness are not the accompaniments of nerve action in the brain only, but are concurrent with all nerve action whatsoever."

PHILOSOPHISCHE BIBLIOTHEK, BAND 45. IMMANUEL KANT, DIE RELIGION INNERHALB DER GRENZEN DER BLOSSEN VERNUNFT. Dritte Auflage. Herausgegeben und mit einer Einleitung sowie einem Personen- und Sachregister versehen. Von *Karl Vorländer*. Leipzig: Dürr. 1903. Pages, xcvi, 260. Price, 3.20 Mark.

The publishing house of Dürr of Leipzig announces a new edition of Immanuel Kant's "Religion within the Limits of Pure Reason" edited and prefaced by Karl Vorländer. Kant's work needs no praise or characterisation, for it is sufficiently well known and has had a great influence upon the development of theology not only in Germany but also in England and America. Vorländer's preface contains a sketch of Kant's religious development in some ninety pages.

ESSAI PHILOSOPHIQUE SUR LES GÉOMÉTRIES NON EUCLIDIENNES. Par *L.-J. Delaporte*, Docteur en philosophie de l'Université de Fribourg (Suisse), Licencié ès sciences mathématiques. Paris: C. Naud. 1903. Pages, 140. Price, 3 fs. 50.

We have in this book a brief but careful memoir on non-Euclidean geometry, containing in an appendix a recapitulation of the fundamental purposes of the several geometries and presenting in parallel columns the geometries of Lobatchevski, Euclid, and Riemann.